

# Indy Streetcar

Comprehensive Project Proposal

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This project examines the role of landscape architecture as the main articulation of the community and development aspects of a sustainable transit corridor. Indianapolis, Indiana is lacking suitable and sufficient mass transit options. The contemporary proposals for an improved transit system for Indianapolis omitted the use of a mode of transportation that has a long history with the city: the streetcar. Indianapolis has, in recent years, promoted cultural landmarks throughout the city by implementing Cultural District designations and building a “Cultural Trail.” Unfortunately, the city continues to suffer from socioeconomic and cultural disparity. This project addresses the potential development possibilities of a streetcar-based transit corridor to connect several of Indianapolis’ Cultural Districts. By examining the problem through a “quadruple-bottom-line” approach, aspects of socioeconomic integration, community development, physical connectivity, and “smart growth” were addressed in this proposal as they relate to transit corridor development.

The project began as a comprehensive examination of how a transit corridor could act as a prototype sustainable development to inspire more sustainable development throughout Indianapolis. The supplementary work addressed further investigation into an important gateway site in downtown Indianapolis and specific design elements throughout the corridor. Through research, interviews, and analysis, the location for the corridor and the specific site was established. The proposed transit corridor exists between Broad Ripple Village, Mass Ave., and Fountain Square Cultural Districts. This corridor connects three major cultural landmarks to downtown Indianapolis, as well as offers an efficient, intra-urban transit option for local residents (thus expanding the potential area someone could access without a personal vehicle). The research suggested that streetcars are a more effective type of transit for building local business and community. By integrating community-focused open spaces along the corridor, the proposed transit route could act as a community incubator and prototype for development throughout Indianapolis. In addition, a site is located in downtown Indianapolis between a proposed IndyGO transit center and a commuter rail station. The site is between Alabama and New Jersey Streets, south of Market Street (in the heart of downtown Indianapolis; three blocks east of Monument Circle). This multi-modal site was designed to be an example of how sustainable design and planning solutions could be applied throughout the system.

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# Introduction

***“A developed country is not a place where the poor have cars. It’s where the rich use public transportation.”***

**-Gustavo Petro (mayor of Bogota, Colombia)**

The above quote inspired thoughts about the state of public transportation in Indianapolis and how socioeconomic status affects mass transit usage. This project examined both where a suitable location for a streetcar in Indianapolis would be and what landscape architecture can contribute to a streetcar corridor so that people with other options would want to use it. In addition, the project identified an important location that would act as a gateway for Indianapolis and proposed an urban development that would showcase the potential sustainable practices that could take place throughout the streetcar corridor. The goals for this proposal were to discover how a streetcar-based transit corridor could: enhance connectivity; grow community; and increase smart development. Connectivity in this sense refers to both physical connections and social connections. The social connections between socioeconomic demographics are important to build social capital and diversify local economies. Community growth is an integral part of any world-class city and depends on a stable economy. For this project, the ability of a landscape to act as a venue and catalyst for community growth was the most

important aspect of any potential development. “Smart Development” refers to sustainability on a systemic scale. The interconnectedness of systems is an important aspect of all development. There were four main focuses for sustainability in the research for this project: Environmental; Economic; Social; and Aesthetic. A truly “sustainable” design through this metric would have a low environmental impact, a diverse and community-driven economy based on locally operated business, and an inviting environment based on having aesthetically pleasing places that people enjoy visiting. The corridor chosen for this proposal is between Broad Ripple Village, Mass Ave. and Fountain Square; thus connecting three major cultural districts to Indianapolis’ downtown.

The project investigates and describes the multiple benefits of reintroducing a streetcar corridor between Broad Ripple Village and Fountain Square in metropolitan Indianapolis and how an urban multi-modal transit development could act as a gateway to the city. The project further examines the role of landscape architecture as the main articulation of the community and development aspects of a transit corridor.

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## Background

The overarching topics addressed in this proposal include the needs and implications of a streetcar system in Indianapolis, the goals and requirements of Transit Oriented Developments, and the importance of public spaces in community building. The goal is to understand the role and relevance of open, public spaces as they relate to the context of a better-connected Indianapolis downtown. The research is designed to evaluate the potential benefits of reintroducing a streetcar system into metropolitan Indianapolis, Indiana, in order to connect three major cultural districts (Broad Ripple Village, Mass Ave., and Fountain Square), along with other culturally and economically relevant landmarks. Special emphasis is placed on environmental and aesthetic performance and how potential designed sites may enhance a mass transit corridor.

## Significance

The lack of a suitable mass transit system for the Indianapolis metropolitan area made the socioeconomic disparity in downtown Indianapolis egregious. This proposal integrated sustainable growth standards into future transit development in Indianapolis with emphases on socioeconomic integration, environmental responsibility, and long-term economic growth. The success of the corridor pivots on the health of the sense of community inspired by the design of the public spaces involved. This proposal highlighted the necessity of quality, designed, public space, and sustainable transit. The product of this project provides a broad-based prototype for urban development in the region. By showcasing the interconnected nature of the numerous variables present in all urban design problems, the project exemplifies the potential of Indianapolis as a city. By following this example, Indianapolis will be able to grow in a responsible manner into a world-class city.

# Problem Statement

This project is an articulation of suitability and design opportunities related to Transit Oriented landscape development for specific locations between Broad Ripple Village, Mass Ave., and Fountain Square cultural districts in Indianapolis, Indiana. Particular interest was paid to the connectivity effects of reintroduction of a streetcar system at a specific transit nodes and along specific corridors. Additionally, the ways in which green space and public space can help encourage smarter growth were examined (economically, environmentally, socially, and aesthetically – Quadruple Bottom Line). The actual introduction of a localized connecting transit system requires further inquiries into how transit can interface with Indianapolis' downtown and mass transit system. The project is framed with an emphasis on specific ways in which landscape architectural design can shape and optimize the transit and community-building aspect of a transit corridor.

The three main topics examined and utilized in this project were urban connectivity, transit-oriented landscape development, and landscape architecture augmented sustainability beyond the environment. The metric used for sustainability in this project was the "Quadruple-Bottom-Line" theory from Design Workshop. There are four general contexts in which sustainability can be evaluated: environmental, economic, social, and aesthetic. Each context or lens is reliant on the other three for its success. It is through this understanding of sustainability that this project progresses. A sustainable mass transit system is dependent upon myriad variables, both tangible and theoretical, and Indianapolis has an unrealized opportunity to experiment with creating a sustainable transit system. This project is a proverbial "first look" at one way in which Indianapolis can start visualizing its sustainable future.

# Hypotheses

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The project was designed to uncover the importance of reintegrating a streetcar system into the near-east side of Indianapolis. The city already has a proposal (from Indy Connect) to expand the transit system to include rail lines (Heavy/transit and light rail options are proposed), as well as an expansion of the existing bus system by two hundred percent. The Indy Connect organization has already established that the city would benefit from a larger public transit option. William Whyte and many others have established the importance of public spaces in community building and activating urban spaces. The project was based on the idea that integrating quality public spaces to build community is an integral element to creating successful locally-based community identities and contribute to the overall success of the proposed transit system.

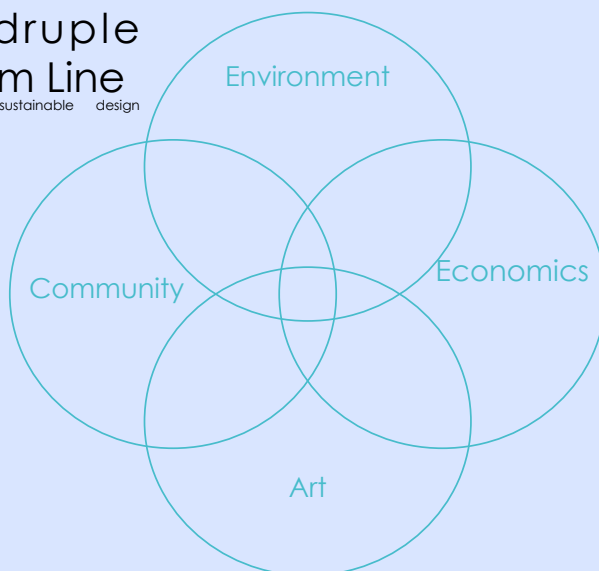
**Connectivity Thesis:** Streetcars blur the line between pedestrian and vehicular realm, and therefore allow for more pedestrian-friendly streets. In addition, the permanent infrastructure provided a less-risky investment opportunity for locally based businesses, which helped to create social connections.

**Transit Interface Thesis:** With a greater prominence in the city, transit stops necessarily became gateways into the city. Since urban transit centers became necessary on both a very localized scale and a city-wide scale, it was necessary to consider the gateways in a larger context that was best articulated by landscape design.

**Green/Public Space Thesis:** Green spaces were essential to community growth and identity of place for urban areas and therefore necessary to the success of urban areas and transit corridors as an articulation of sustainable practices.

## Quadruple Bottom Line

aspects of sustainable design



Sustainability must be addressed from several perspectives. It is essentially a multi-faceted issue with myriad solutions that ultimately relate to the interconnectivity of systems. For this project, it is imperative that sustainability is approached as a design opportunity with multiple correct solutions.

The idea is simple, for a design to be considered sustainable it must be universally sustainable. Sustainability is too often sequestered to environmental responsibility; this view is too narrow. While the environment

is ultimately the most important lens, a design will not succeed if it does not ensure the social, economic, and aesthetic aspects of sustainability. For example, if the maintenance of a green infrastructure system costs too much, the system will ultimately fall into disrepair and no longer function for either the sustainable cause (environmental or economic). Sustainability then, in this context, refers to the interconnectedness of the urban conditions that are designed and the support systems associated with them.

# Mission

The purpose of this project is to evaluate the implications of quadruple-bottom-line development in an urban setting and to apply these findings to a transit corridor in Indianapolis, Indiana between the Broad Ripple Village and Fountain Square cultural districts. The landscape will be the direct articulation of the quadruple-bottom-line design imperatives and will engage users of the entire socioeconomic stratum. By implementing social, economic, environmental and aesthetic design aspects to the corridor, this project will act as a prototype by which Indianapolis may grow. Because of the regional nature of this proposal, a specific site was chosen to display

*typical* designed experiences. The corridor's aesthetics, low environmental impact, and ability to grow social capital and economic development are the aspects that will make it successful. The landscape architectural aspects as manifested physically will be the environments that foster the social and economic growth; thus the open spaces are imperative to the success of the corridor. Indianapolis will garner a more pedestrian-focused environment from this project which can act as a guideline for future development throughout the city. The following Goals and Objectives have been developed to achieve the success of this transit corridor development:

## Delimitations

While this project will incorporate an overall master plan of a new streetcar system along College Avenue connecting Broad Ripple Village to Fountain Square, it will not address the transit system for the City at large.

While funding for similar projects may exist, this proposal will not address the public or private funding option for a proposed transit system or associated TODs.

Since mass transit reduces personal vehicular usage and therefore reduces overall emissions, this proposal will not address an energy plan beyond proposing various renewable energy options associated with a transit system or TOD.

While this proposal addresses the entire linkage between Broad Ripple Village and Fountain Square, detailed, the site-scale plan will be focused on one major transit node and applicable open spaces.

## Assumptions

This proposal assumes that the integration of a streetcar system into the Indy Connect system could be covered by their proposal budget and any transit-oriented development will be subsidized by local developers and retail businesses.

The current Indy Connect proposal implies that the corridor for the proposed transit may be applicable to redevelopment and therefore this proposal assumes that zoning will not conflict with proposed land use.

Since this proposal is an exposé on a potentially more sustainable transit method than that proposed by Indy Connect, it is assumed that the integration of a streetcar system in place of a bus system is possible.

This proposal assumes that the ground level parking along Alabama st. between Ohio and Washington streets in downtown Indianapolis is open to development as long as equal appropriations for parking are made or compensated for through transit.

## Definitions

- **A Streetcar** system is a electric, rail-based transit alternative to larger commuter rail systems and diesel bus systems
- **A Walk-radius** refers to the distance that a person can be acceptably assumed to travel by foot to get to a destination
- **Quadruple-bottom-line** planning is an approach to development and growth that incorporates economic, environmental, social and aesthetic sustainability
- **Transit Infrastructure** is any set of built installations required to facilitate a transit system
- **Social equity** is a concept relevant to social capital (defined in paper) that considers pan-demographic equality and access to resources
- **Social Capital** is the sense of loyalty that is a product of social interactions between people

- **Connectivity** is a characteristic that defines the amount of connections between various aspects of everyday life (such as transit or social interactions)
- **Human/Pedestrian Scale** refers to a sense of a high level of intimacy perceived by a user in a space
- **Transit System** is an incorporated infrastructure that connects various locations and regions via publicly accessible modes of transportation
- **Sustainability (Quadruple-Bottom-Line)** is a four-pronged approach to development which includes:
  - **Social sustainability** is a concept that incorporates social equity and overall improved quality of life for the entire strata of demographic groups
  - **Economic sustainability** is the concept that considers long-term, steady economic growth as a main characteristic to create guidelines for future development

**Goal: Enhance Connectivity** by augmenting existing and proposed (Indy Connect) transit plans by implementing a streetcar-based development corridor

Objective 1: link neighborhoods and districts via an integrated transit system that empowers the pedestrian (rather than the automobile)

Objective 2: Bypass socioeconomic boundaries by introducing and appealing, efficient, public transit option

Objective 3: Link cultural and economic hubs conveniently to stabilize the local economy through diversification

Objective 4: Create an aesthetically pleasing experience by giving special attention to the art and design of a “journey”

**Goal: Grow Community** through increased social capital

Objective 1: Increase awareness of environmental impacts by creating demonstration landscapes along with engaging open spaces or social plazas.

Objective 2: Use open space as a platform for social interaction to build social capital

Objective 3: Activate social capital to support local business and support denser development in the areas surrounding the corridor

Objective 4: Employ William Whyte’s characteristics for successful open spaces to create green space that engages communities for social interaction

**Goal: Increase Smart Development** by engaging environmental, social, economic and aesthetic aspects to achieve sustainable outcomes

Objective 1: Create environments that foster minimal use of non-renewable energy sources (increase imbedded assets in the pedestrian realm)

Objective 2: Aid dynamic and stable communities by creating greater social capital and integrating all socioeconomic groups

Objective 3: Make local business stable by increasing demand through social capital and accessibility by foot (or transit)

Objective 4: Create inviting, engaging outdoor environments that foster social interaction

- **Environmental sustainability** refers to the group of concepts that address responsible use of materials and limited contamination of the environment
- **Aesthetic sustainability** is an aspect derived from Design Workshop that refers to art as a necessity of human experience. Art can ensure the longevity of a site and subsequently its economic sustainability.
- **Cultural Districts** refer to designated areas in Indianapolis that have been identified as culturally significant by Indianapolis Downtown Inc.
- **Transit Demand Management** is a development planning method that evaluates transit requirements and endeavors to mitigate unnecessary vehicular traffic and infrastructure.
- **Green/Public/Open Space** is any unoccupied square footage of a developed area at ground level

designated for social interaction or maintained vegetation that exists in the public realm

- **Community** is any group of people who share a common identity that is based on interaction and relevant geographical factors
- **Sustainable Growth/Smart Growth** is a development method that emphasizes development only when necessary and insists that the proposed development incorporate strategies to mitigate abuse of resources (including natural, economic and social resources).
- **Re-urbanization** is a planning method to reinvigorate urban areas so that development and growth can happen within existing incorporated areas (thus mitigating sprawl).
- **Identity** is a set of unique common values or recognizable features shared amongst a people.

## Subproblem 1: **Connectivity** – how can a streetcar system improve Indianapolis' quadruple bottom line?

Indianapolis, Indiana has had a checkered history with its relationship to the automobile. Historically, Indianapolis was a manufacturing center for cars (probably most notably the Stutz Bearcat). The Indianapolis Motor Speedway punctuates the city's history and is considered one of the most significant and unique existing features in Indianapolis. What is lesser known is the city's history of public transportation. Indianapolis sported an elaborate system of streetcars around the turn of the century, which continued on until 1953. The streetcar system (which was a conglomeration of privately run companies) serviced seven million passengers annually. Diesel busses later replaced the trackless trolleys. Since the 1970's, public transit participation has dropped off significantly along with its financial support ([indygo.net](http://indygo.net)). To counteract the effects of personal vehicles as the main form of transportation around Indianapolis, Indy Connect (Fig. 4.1 in Appendix V), a conglomeration of three transportation agencies, has put forth a plan to increase connectivity throughout the city and the region. The three transportation agencies involved are the Indianapolis Metropolitan Planning Organization (MPO), Central Indiana Regional Transportation Authority (CIRTA), and IndyGo ([indyconnect.org](http://indyconnect.org)).

The Indy Connect plan is a multi-phased layout of an extreme expansion of Indianapolis' transit systems. In addition to expanding the existing bus system to twice its size, over time, it plans to implement Bus Rapid Transit (BRT), Rail Transit, and Light Rail (along with improvements to car and bike circulation) ([Indyconnect.org](http://Indyconnect.org)). The scheme uses the bus expansion to encourage ridership and persuade more people to utilize the public transportation systems. Once ridership has increased, rail and rapid transit will replace routes where applicable ([indyconnect.org](http://indyconnect.org)).

This plan is a major step in the right direction for the city. The only flaw it seems to have is that it anticipates people using the larger bus system simply because it is there. What is truly essential to the success of a transit system is development (meaning, destinations for people to go to using the transit system). Once developments are established, to ensure sustained vitality, it is essential that guidelines are set to maintain economic, environmental and social sustainability.

One topic Indy Connect has mostly left out of their discussion of options is the streetcar. Unlike the bus, the streetcar has an implicitly permanent infrastructure of rails and wires (Ohland 8). Permanent infrastructure, such as streetcar rails, indicates a long-term investment by the municipality. Developers, and more importantly local businesses, will want to know that a transit corridor will be there long enough for them to get a return on investment. Bus routes are less expensive and potentially more versatile, but they do not have as much of an affect

on development as streetcars (Ohland 9).

By instigating development, streetcars also increase ridership. Because of their slower pace and easy integration into existing circulation systems, streetcars effectively increase the local "walk-radius" or the farthest reasonable distance a resident may be expected to walk. By empowering pedestrians, there will be more street life and greater potential for economic growth. If an infrastructure for the streetcar is put in place, development will follow. If there is dense development, people will be attracted. If there are people there, ridership will increase. This idea is different than the Indy Connect bus plan because it melds development along with transit to ensure interdependence and growth with an emphasis on the pedestrian as the main economic driver.

Since streetcar systems can foster and support dense growth, as a product, they also enhance the streetscape and help to bring large, dense development down to the human scale. Intense, mixed-use development attracts a greater number of people for daily use than the existing development patterns. Since streetcars augment instead of replacing pedestrian traffic, implementing a streetcar system would increase the number of pedestrians and make spaces more intimate (Ohland 23).

Streetcars do not have the same utility that transit rail systems, or even light rail systems, have. The streetcar is implicitly oriented toward very local connectivity, whereas, other rail systems benefit from higher speeds, greater capacity and greater distances to help connect people (Ohland 11). While these are definitely advantages on a larger scale, it is much more difficult to integrate large systems into neighborhood contexts. Streetcars can provide that essential last step in melding a neighborhood with a larger, overall transit system. At the intimate scale, pedestrian friendly speed and infrastructure, and relative low costs make streetcars an obvious option for cities attempting to increase transit usage and efficiency.

The Indy Connect proposal could benefit from strategically placed trolley lines to help integrate the transit corridors into the neighborhoods while instigating commercial growth and encourage wider usage throughout the system.

In addition to being a catalyst for development and a way to augment the pedestrian experience, streetcars tend to draw from a broader range of ridership. Streetcars can provide two distinct qualities to a transit system: transportation or transportainment (a novel nostalgia-inspired transportation option) (Ohland 24). Many modern, European streetcars are sleek and efficient, moving silently and efficiently through the streets. Other options include vintage streetcars (refurbished) and replica streetcars (similar to those in New Orleans, LA, and San Francisco, CA). If the transportation system can cater to both commuters coming in from the suburbs and to local shoppers and tourists, the system will have a greater diversity of users.



The Indy Connect plan suggests that a light rail and heavy transit rail system will cut down the commute time for Hamilton County residents working in downtown Indianapolis substantially (Indyconnect.org). They do not mention how the system can be utilized in the non-peak times by people who live between the suburbs and downtown, people for which the new transit system can be a way to live car-free. By increasing the potential amenities available to a pedestrian, residents would not require cars to get around (Ohland 28). Less parking means that denser development can happen. In the book *Street Smart*, the concept is described: "...it can be reasonably assumed that, as with light or heavy rail, people who live near streetcars walk more – which makes it possible to increase densities and lower parking ratios without incurring significant problems with traffic" (Ohland 28).

With fewer cars, more walking, and denser living, the city begins to act more sustainably both environmentally and socially. Another major asset that streetcars have is that they can be powered by locally created energy. Since they run off of a suspended wire system above the street, their power comes from the established grid. A streetcar system could be part of a larger, green energy system.

So far, it has been discussed that a streetcar system would be economically sustainable by being a catalyst of dense development. It would be environmentally sustainable by lowering carbon emissions, by reducing the need for cars, and by using renewable energy. The third element to a sustainable system is the social aspect. A healthy city consists of a diverse population. The diversity of occupations as well as socioeconomic classes is integral to a dynamic economy and social structure.

It is apparent that social diversity is essential to social sustainability. Quality of life is closely related to access to amenities. One's quality of life changes depending on how accessible daily needs are to one's home. If a doctor's office, a grocery store and an elementary school are all within a reasonable walk, ease of living is enhanced, which is potentially better. Between increased density of development, decreased car emissions, and increased social equity, a streetcar system, if implemented responsibly, will foster sustainable growth in Indianapolis.

A system-wide adoption of streetcars may is



Fig. 1.1: 1923 Route Map  
(Black Line is proposed route)  
(chicagorailfan.org)

not be appropriate. This project proposes a prototype corridor, which would benefit the city even if it is an isolated streetcar system. Three major cultural districts will be linked using an extensive streetcar system based on the historical system that operated in Indianapolis in the early twentieth century. Broad Ripple Village and Mass Ave. cultural districts lay adjacent to College Avenue. The former line connected the two locations to downtown, cutting diagonally toward the Monument Circle along Massachusetts Avenue. The route turned south on Pennsylvania Street (Massachusetts Ave. no longer reaches Pennsylvania St.)(chicagorailfan.com). Virginia Avenue (the dominant SE diagonal) connects downtown with Fountain Square cultural district. Using Broad Ripple to the north and Fountain Square to the south as the anchors, a streetcar corridor could foster economic growth along College Avenue, directly connect neighborhoods with three major cultural districts and downtown, and act as a prototype for how transit can supplement sustainable development. The corridor has a rich mixture of demographics, densities and destinations that would allow for a diverse cross-section of Indianapolis.

## Subproblem II: Transit Oriented Development – How can development patterns create community and foster sustainable growth?

As was discussed in the above section, transit and development are interrelated and often interdependent. Also parallel is the necessity of diversity in terms of people, jobs, and systems. Quadruple Bottom Line planning is equally important in the planning of functioning transit oriented development. A system is not implicitly sustainable if it is only sustainable in one dimension (i.e. environmentally sustainable but unsustainable maintenance costs).

By catering to the pedestrian, the focus, and therefore infrastructure, is redirected to serve people rather than cars. Mixed-use development and diverse land use help avoid symptoms (and results) of sprawl (Duany 5.1). It is imperative that multiple programs and functions coexist in close proximity so that a development area maintains high levels of street life. This reinforces safety without extra infrastructure (Duany 5.2). In addition to safety, the pedestrian is also given more importance. Diversity and density reinforce pedestrian scale development.

Unfortunately, TODs have been a common label for developments that are not sustainable at all. A more appropriate term, coined by the authors, might be "Transit Adjacent Development" (Tumlin 14). Tumlin's main argument is that without reduced parking, development near a transit hub is still encouraging personal vehicular use. An integral part of true Transit-Oriented Development must be Transit Demand Management (TDM) (Tumlin 16). The concept is simple: current regulations incentivize

driving by subsidizing parking (free or cheap parking). Unless a design disincentivizes parking, people will continue to drive even when it is unnecessary (Tumlin 16). Another asset of a pedestrian friendly TOD is that it will spread ridership throughout the day in contrast to “park and ride” situations that have disproportionately heavy usage at “peak” times. With more constant ridership, the transit system benefits from increased riders, while commercial areas benefit from consistent patronage. In addition, Tumlin argues that with lessened parking requirements, design has more options. Blocks can be shorter, and shorter blocks encourage walking (19).

By promoting the pedestrian’s importance, walkability becomes more important. In Indianapolis, the proposed streetcar route runs near both the Monon and the Cultural trails. In correlation with the streetcar system, a network of green spaces spanning the entire length of the proposed corridor will enhance the pedestrian experience. By focusing on the pedestrian in a holistic sense, walking in and around the proposed corridor will be a practical and pleasurable alternative to driving.

TODs along the College Avenue Streetcar corridor would be a creative way to revitalize underprivileged neighborhoods such as Mapleton Fallcreek and Martindale Brightwood. With special emphasis placed on creating socioeconomic diverse growth zones with pedestrian-centric streetscapes, the corridor will foster sustainable, socially equitable growth in Indianapolis. If the TODs along the streetcar route sufficiently reduce the need and demand for personal vehicles in the urban center of Indianapolis, then future growth can use the College Avenue corridor as a guideline for smarter, greener growth in the region. In addition, TODs will act as community growth catalysts and facilitate a stronger sense of place-specific pride and identity.

### Subproblem III: How can **green space and public space** encourage smarter reurbanization, especially as it relates to transit nodes and within transit corridors?

William Whyte famously analyzed how people act in small urban spaces, the necessities of design to make successful urban spaces, and the different characteristics that make open space in urban centers unique. The importance of public space is closely related to socialization (Duany 5.9). Public spaces serve as gathering places, civic space, social locations, economic catalysts and potentially environmental sustainability centers.

Integration of streetcars and TODs into Indianapolis’ urban fabric will facilitate a more pedestrian friendly atmosphere. With a more transit-oriented, non-car infrastructure, the city can enliven the human scale and create a more vivacious street life (Duany 5.2). Conceptions of community are highly ingrained in civic spaces. Community and identity building is integral to social capital that helps to sustain communities (Manzi

12). Social capital is a term that refers to the relationships built between people in a community that engenders them to each other and creates common trust. Social capital helps to drive community development and increase the power of localized systems (an example is word-of-mouth advertising) (Manzi 12). This concept of social capital is dependent on group activity; whether the activity is business related or civic makes no difference as long as the familiarity results in a benefit for the parties involved.

By extrapolating the concept of social capital and the role of public spaces as a way to build community, it becomes clear that public spaces in urban areas are vital to sustainable growth. In this case, sustainable growth is not confined to environmental sustainability, but also includes long-term economic growth and social equity. Transit Oriented Developments are centered around a transit system, but to make them viable, they must cater to community building and the residents who choose to make the TOD their home (the impetus behind increased density and walkability).

The open spaces integrated into TODs along the College Avenue Streetcar Corridor will necessarily have myriad programs and characters to appropriately address each unique neighborhood and community. Near Broad Ripple, the open spaces might cater to a late-night crowd or attract health fanatics (Broad Ripple Village is home to a vibrant weekend nightlife and several health food stores and restaurants as well as a weekly farmers market). Aesthetically conscious landscapes along the transit corridor will augment the transit experience. By having active spaces such as the Monon Trail or the Canal visible from the streetcar, people will enjoy the journey from a people-watching aspect as well.

Between 38<sup>th</sup> street and 16<sup>th</sup> street, the public spaces may be tied in with existing community organizations to support underprivileged youths (this area is predominantly low-income, working-class families). By extending cultural trail elements along the proposed corridor and reinvesting in local business, pedestrian traffic will increase along with a heightened sense of community (based on social capital). This once largely ignored sector of Indianapolis will have a renewed identity as a transit and commercial hub, while the community will benefit from the new investment in the area.

The Mass Ave area may incorporate outdoor theaters or performance spaces (Mass Ave is considered a premiere arts district in the city). Since Massachusetts Avenue is currently involved with the Riley Neighborhood Organization (a philanthropic organization that invests in beautification and community) and is an established retail center, it will act to anchor the streetcar and benefit from the increased pedestrian traffic. By offering an alternative to personal vehicles, the streetcar may also increase the opportunities for nightlife along Mass Ave. Denver’s 16<sup>th</sup> street Mall corridor, a 1.25 mile car-free, pedestrian and transit commercial center, has exploded with commercial growth since it was designed in 1982 (Olin). By employing similar pedestrian-only design elements while allowing streetcars to act as the main form of transportation, Mass



Ave will be able to increase connectivity without sacrificing visitorship.

The center of downtown would be a highly appropriate location for a dynamic, multi-modal transit hub from which more non-commuter transit systems could connect other neighborhoods to the city center. Ball State University's Masters in Urban Design (MUD) professor Bruce Race expressed in a conversation that this site (near the intersection of Washington Street and Alabama Street) is very appropriate for this sort of development. It is located close enough to the commercial and civic centers of Indianapolis to draw wide ridership without interfering with the existing infrastructure. The current context of this site is undergoing significant renovation: Cityway, a development sponsored by Eli Lilly and Buckingham Group, is being constructed south of the rail line adjacent to the focus site. The properties directly east of the focus area are in the process of rehabilitating empty buildings. The old Market Square Arena site is currently occupied by surface parking and subject of a recent RFP for redevelopment. The focus area is in the middle of a vibrant development zone in the heart of Indianapolis, making it critical to the success of the integration of transit into the system.

Finally, Fountain Square, one of the most rapidly changing areas in the city would be an ideal location for a visual arts-based public plaza with multi-cultural flair. The square was historically a streetcar turn-around. By reintroducing the streetcar and investing in denser development in the surrounding area, Fountain Square would benefit from increased connectivity with downtown Indianapolis along with being an anchor for the streetcar line.

Aside from the role of open spaces in relation to specific sites, another aspect that open spaces can affect is the physical journey along the rail. Aesthetics is pan-demographic, meaning everyone responds to beauty (Florida 40). A well-designed, aesthetically pleasing transit corridor will garner more favor and use than if the current conditions were permitted to stay as they are. The effect is two-fold: a pleasant journey with noticeable landmarks help to increase the sense of place along a corridor and; community satisfaction is increased with the presence of outdoor spaces resulting in more social capital and stronger neighborhoods (Florida 40, 43). By creating aesthetic elements along a route, a transit corridor can both be a pleasant and build communities simply by existing. Parks act as urban amenities at the community scale and as landmarks in a transit scale. Any proposal for a transit hub in Indianapolis should incorporate not only transit related elements but context sensitive programming to fulfill the needs of an urban scenario and enhance the aesthetic characteristics of the space. With the role of "sustainable development prototype," the corridor needed to both be context sensitive, incorporating relevant sustainable practices, and dynamic to exemplify the proposed changes to the current development strategies.

Through studying various accounts of public

transit options, it became apparent that the Indy Connect plan would greatly benefit from the integration of a streetcar system. Streetcars can act as catalysts of denser, more diverse, sustainable development which will help to revitalize and re-urbanize downtown Indianapolis. Transit Oriented Developments associated with the reintroduced streetcar system will be integral to managing the sustainability of the new growth. The streetcar system should, in effect, decrease the amount of parking required for a given area. It would also diminish the traffic volume needs and pollution associated with personal vehicles. But, development and transportation systems amount to nothing without community support. It is essential that community identity and social capital are built, as well. Open, public spaces help to socialize residents and offer identifiable landmarks for visitors. While a streetcar system and TODs will help to make Indianapolis a better city, designed open spaces are necessary to ensure their success.

## Case Study: TRI-MET: MAX System Portland, Oregon



Fig. 5.1: Portland MAX

Portland's TRI-MET system is a very impressive system but what makes it stand out is how the streetcar is integrated into the urban streetscape. While personal vehicles are still widely used in Portland, the streetcar system was designed to have higher priority and easier navigation of the urban corridors. In addition, the streetcar system is so well integrated into the urban conditions of Portland that it seems like a natural fit and the most convenient mode of transportation (Fig.5.1).

## Case Study: 16th St. Pedestrian Mall Denver, Colorado



Fig. 5.2: 16th st. Pedestrian Mall

The 16th Street Pedestrian Mall in Denver, Colorado is an example of using transit to augment the pedestrian experience. When the bus is not occupying the travel space, pedestrians use the space freely. This method has simple utility while accommodating many uses (Fig.3).

## Project Requirements

As has been discussed in the introduction, the project's intent is to act as a prototype for sustainable development in Indianapolis. It was to this end that the corridor was selected for development and a focus site was chosen to showcase potential design opportunities. The idea of a transit corridor became important because it allows for multiple biomes for development and creates more opportunities to locate sustainable practices. The corridor acts as a site for conceptual design rather than a master plan itself. The design is, then, able to adapt to different circumstances and allow for various types of urban conditions while adhering to the overall concept of sustainable development.

In the larger scale, the design concept does not address all specific site conditions for the entire 8.6-mile route. The proposal diagnoses possible and typical design solutions to adhere to standard rights-of-way and other existing conditions. In addition, upon discovering the city government was in the process of re-planning the entire city, suggestions are here made as to where development would accentuate sustainable aspects of the corridor design.

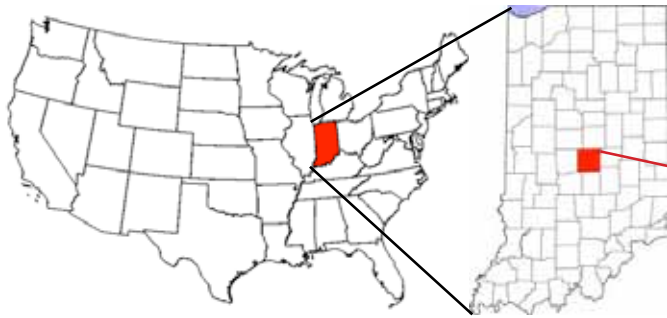
The major concerns for this project include aspects of sustainable development. There is an existing transit proposal called Indy Connect and a new zoning initiative called Indy Rezone. This proposal for a new streetcar corridor endeavors to articulate the role of landscape architecture within the constraints of the context of the other existing proposals. In essence, this project, acting as a prototype for design development for Indianapolis, is one visualization of the hierarchy of values that will make Indianapolis a more sustainable city. It does not identify areas that have not already been selected for future development. It significantly analyzes the potential of the area and suggests one of many solutions. The focus area in downtown is meant to exemplify urban design as well as provide appropriate examples of sustainable design practices. The four focus topics were: economics; environment; community; and art. Economic considerations, on a corridor scale, included preference of locally based companies and encourage the growth of social capital as an economic driver.

Environmental considerations include waste and storm water management, employment of renewable energy sources, waste reduction and reuse practices, and an attention to the natural environment as a necessity of urban life.

Considering social capital and the pedestrian environment more important than economic capital and vehicles bolsters community growth. Empowering people and providing meaningful outdoor gathering spaces redirects the focus of the city toward encouraging more social interactions and creating stronger communities.

Art and aesthetic qualities of the landscape are integral to the understanding of a unique city identity. Identity can inspire ownership and responsibility, resulting in pride. By designing for aesthetic sustainability, this prototype acts as a new identity-giving aspect of Indianapolis.

# Corridor Vicinity Map



The corridor is located in Indianapolis, Indiana between Broad Ripple Village and Fountain Square. The route follows College Avenue until it reaches Massachusetts Avenue. From Mass Ave to Fountain Square, the route follows the Indianapolis Cultural Trail.

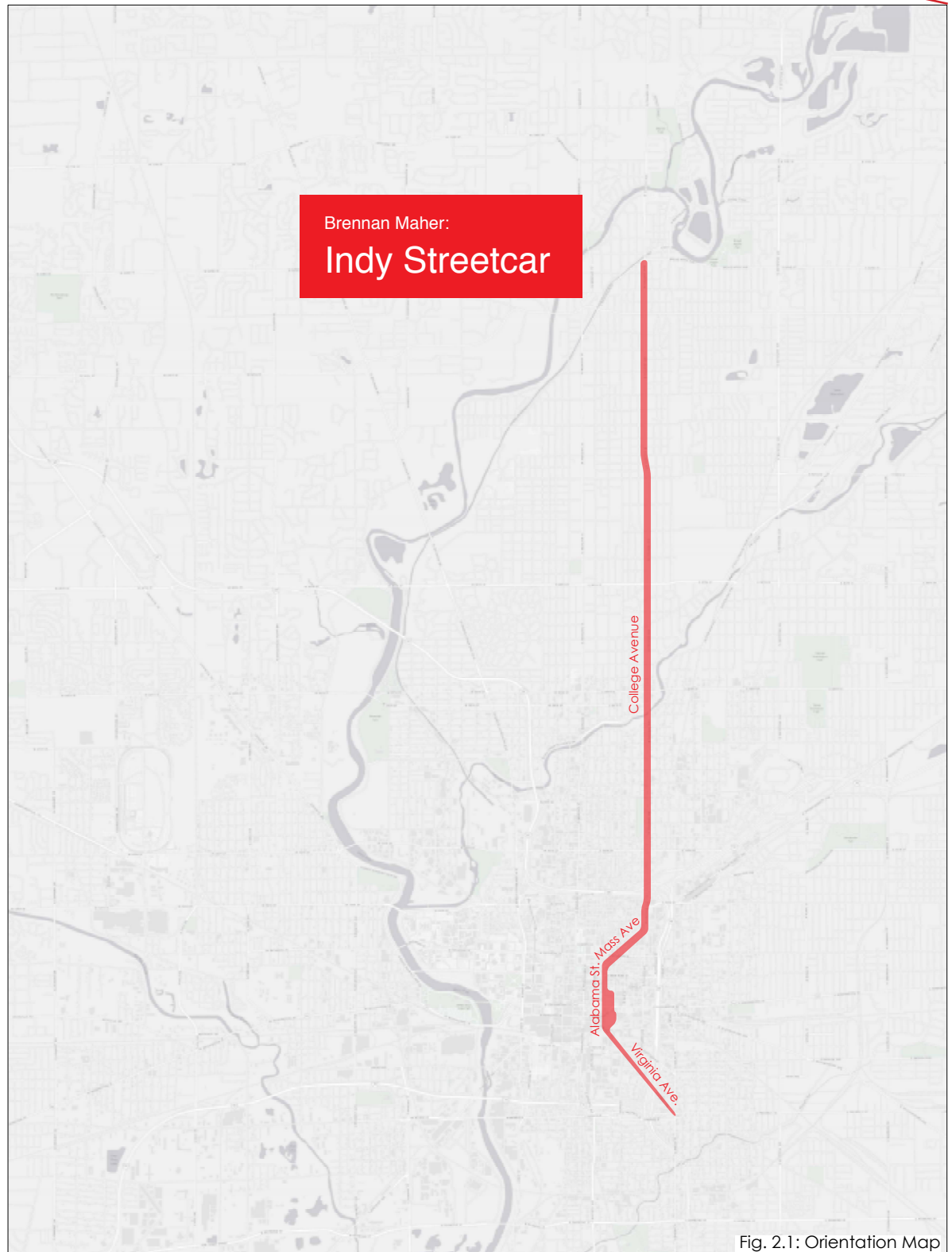


Fig. 2.1: Orientation Map



## Existing Corridor Description

The site chosen for this project, as a prototype development for Indianapolis, is a transit corridor between Broad Ripple Village and Fountain Square. Indianapolis' streetcar system in the early twentieth century had a rail line along College Avenue that connected downtown Indianapolis to Broad Ripple Village. The former transit system also had a route that went southeast of downtown, along Virginia Avenue, to Fountain Square. This proposal intends to activate this former corridor as a smart growth and development area with a transit "spine."

Broad Ripple Village is a semi-urban area northeast of downtown Indianapolis about 6 miles. Indianapolis' east-west street grid is designed so that ten blocks equals roughly one mile; Broad Ripple Avenue is also 62nd street. Broad Ripple Village is one of Indianapolis' main cultural districts and is the home of a vibrant nightlife, multiple art boutiques, local restaurants, music clubs, bookstores and other various cultural attractions. The area has a sensitivity for locally produced goods and services. The intersection of College Ave. and Broad Ripple Ave. is the main gateway into Broad Ripple Village (though the neighborhood expands far beyond this in all directions).

College Avenue, south of Broad Ripple Village, has similar zoning patterns to those of the pre-automobile era with commercial zones every two to three blocks integrated into an overall residential zoning pattern. Single-family detached and duplex lots are the main developments along College Ave. with a few apartment buildings south of 38th street. At 42nd street, a branch of the Marion County Public Library sits across from a fire station. The Indiana State Fair Grounds is immediately east of College Ave. between 38th and 46th streets but never borders it. The Monon Trail, a former rail line-turned linear park, runs parallel to College Avenue from 10th street to Broad Ripple Village.

Between 38th street and 16th street, along College Avenue, there are many dilapidated and vacant properties. East of College Ave. in this section is a neighborhood called Martindale Brightwood. West of College Ave. there is a neighborhood called Mapleton Fallcreek. While these neighborhoods, at one point, were considered the posh place to live (when Indianapolis was a 1-mile square and these were the suburbs), they are currently some of the most impoverished areas in the city.

King Park, a park that runs adjacent to College Avenue from 17th to 21st streets, is a well-known landmark for the area. In 1968, when Martin Luther King Jr. was assassinated, Sen. Robert F. Kennedy was giving a campaign speech in this park. Kennedy told the people who turned out for his speech about King's assassination and persuaded them to peace and unity instead of chaos and rioting (Indianapolis was one of the only major American cities that did not experience rioting upon hearing of King's death). King Park is now home to a peace memorial to honor both King and Kennedy. Unfortunately, while the King Park area is significant in the city's history, it too is highly impoverished. The area has some of the highest densities of vacant lots in the city.

College Avenue passes under the I-65/I-70

## Corridor Inventory

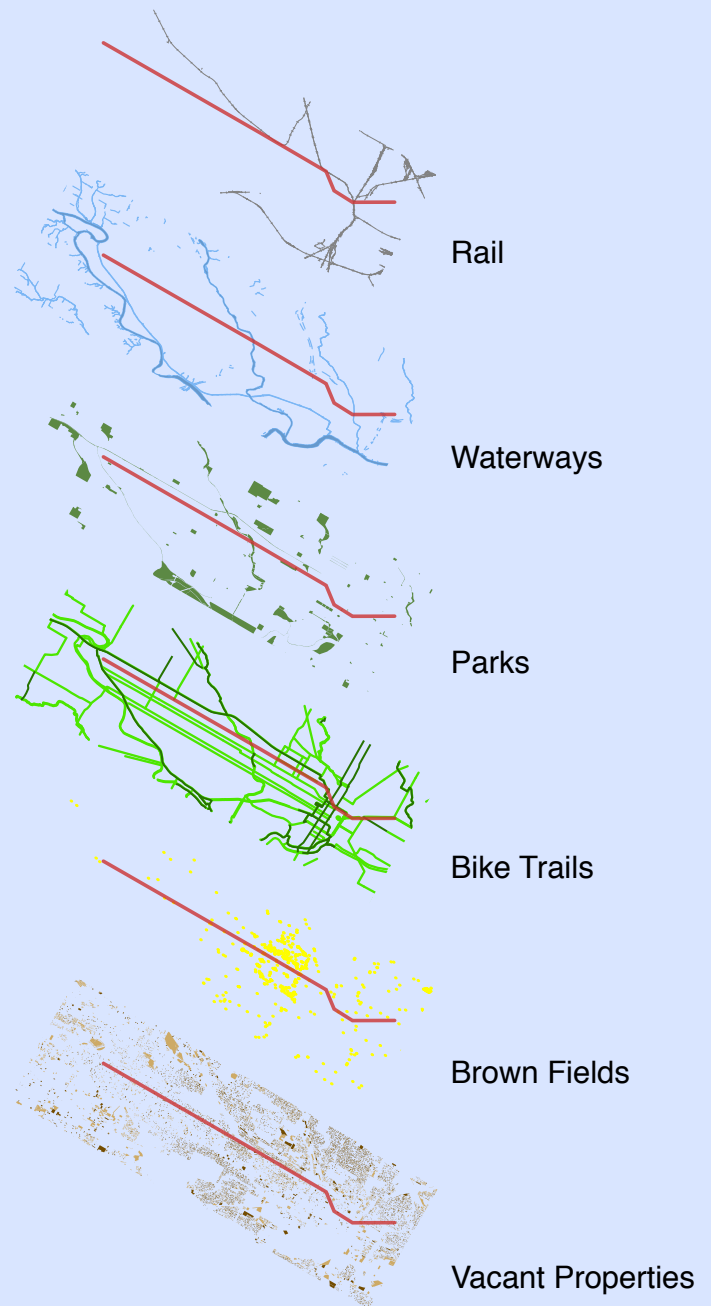


Fig.2.2 : Inventory Layers

interchange just north of 11th street. East of this interchange, a magnificent example of art deco architecture exists in the form of a former Coca-Cola bottling plant (which now serves as Indianapolis Public School's bus service station). Two blocks south, College Avenue intersects with Massachusetts Avenue (commonly referred to as Mass Ave.). While College Avenue continues south and, in fact intersects Virginia Avenue further south, it becomes a one-way north street at Mass Ave. Due to this circulation pattern, the proposed site turns southwest down Mass Ave. toward Downtown (Mass Ave. is at a 45 degree angle compared to the standard grid).

Mass Ave cultural district is littered with boutique shops, art galleries, theaters, coffee shops, jazz clubs, and

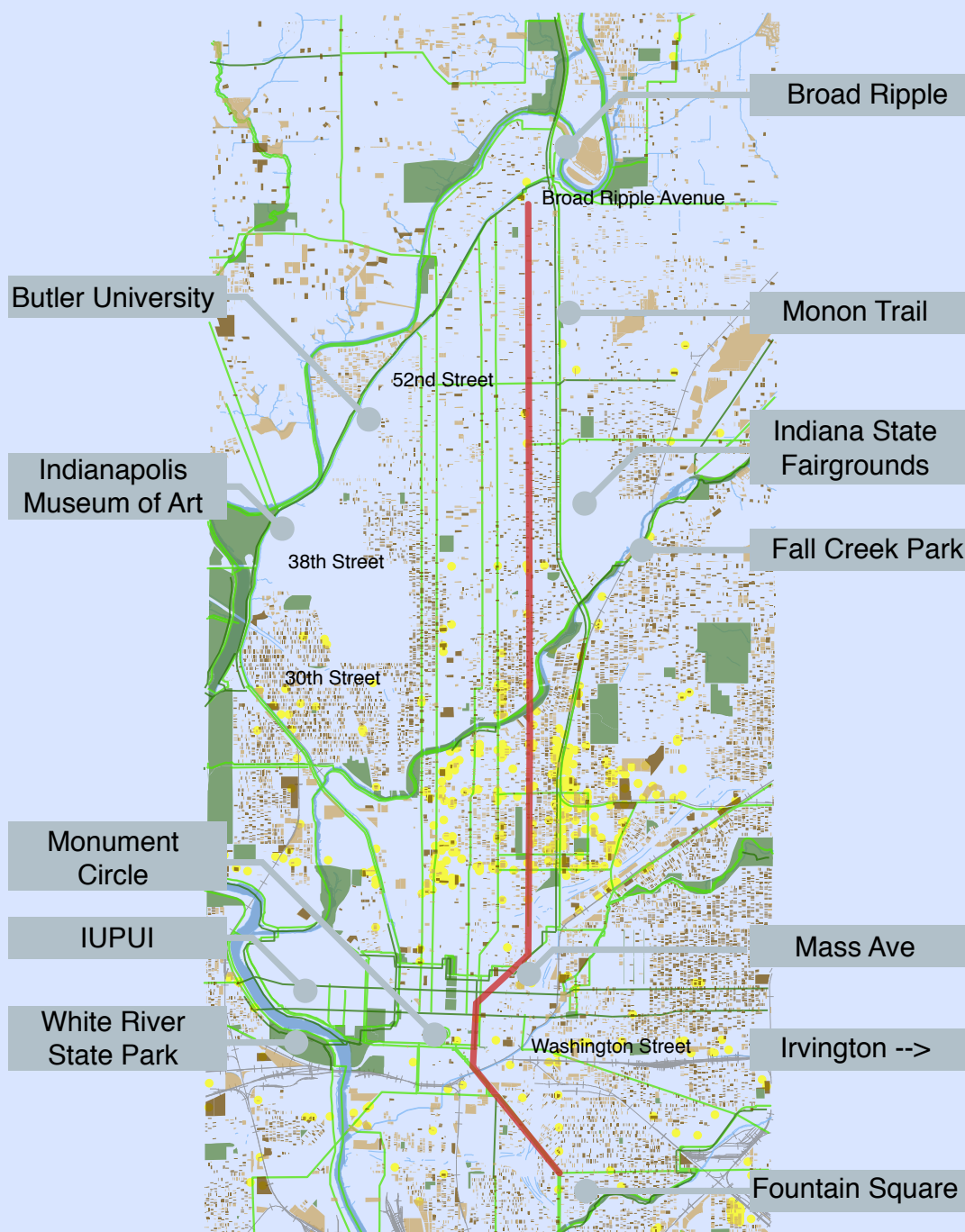


Figure 2.2: Exploded Inventory

The proposed transit corridor (RED) is part of a greater system within Indianapolis, Indiana. Some elements that were examined as important contextual elements were the existing rail, waterways and bike trails. The bike trails act as connections for the park system in the area. The concentration on brown fields and vacant properties in the area indicate two under served neighborhoods along the route.

Figure 2.3: Composite Map

This maps shows existing landmarks, cultural districts, and assets around the proposed corridor. The Monon Trail runs parallel to the proposed corridor and acts a major pedestrian connection throughout the city. Quadruple Bottom Line sustainability practices would tap into the potential of connecting the different existing systems and encouraging infill development to densify the surrounding areas. The Monon Trail presents a great opportunity to provide diverse and parallel experiences that are completely separated from vehicular traffic.

Fig.2.3: Inventory Composite

restaurants. Mass Ave represents a thriving commercial, mixed-use corridor in downtown Indianapolis. The speed limit down the narrow corridor is only 25 mph, and the parking consists of angled, on-street parking and ancillary lots behind some of the buildings. Mass Ave., from the intersection with College Avenue, is five blocks long, diving into downtown. There are plans to redesign the middle block, between New Jersey and East streets, to develop mixed-use buildings closer to the street and enhance the pedestrian experience even more (currently there is a fire station and a public housing building that combine to create a rather lack-luster experience for one block along Mass Ave.). Mass Ave. terminates at Delaware Street (one-way north) and New York (one-way east). One block

north of this intersection, on Alabama Street, Indianapolis' Cultural Trail, a pedestrian and bike path that connects notable landmarks and neighborhoods, intersects Mass Ave.

By following the Cultural Trail south along Alabama, the proposed corridor benefits from an already enhanced pedestrian circulation system. The streetcar can act as an extra buffer for the Cultural Trail along the road. Three blocks south, along Alabama, the corridor intersect Market Street (one of the axes of Monument Circle and the home to City Market and the City County Building). The north and south corners on the east side of this intersection are occupied by ground-level parking. This site was formerly home to Market Square Arena and

has had trouble developing for nearly a decade. One block further south, Alabama intersects with Washington Street or Old U.S. Route 40. Three of the four corners of this intersection are ground-level parking as well. This is the site that the proposal suggests should become a park, plaza and multi-modal transit interchange. IndyGO, the current bus service, already has plans to make this site a bus hub. With more transit options, it makes sense to offer this site as the natural central hub for transit exchange.

Alabama Street goes under a parking garage and intersects with Virginia Avenue, which was recently redesigned when the Super Bowl was held in Indianapolis. The Cultural Trail also goes through this tunnel along Virginia Avenue. Virginia Avenue travels five blocks before going over the interstate. Notable landmarks in these blocks include the Eli Lilly & Co.'s international headquarters. The dominant streetscape is ground-level retail, including restaurants, coffee shops, and boutique stores, and condominium apartments. Along this stretch is where College Avenue intersects Virginia Avenue. After crossing the interstate with the Cultural Trail, Virginia Avenue travels three short blocks into the heart of Fountain Square Cultural District.

Fountain Square is a fast-growing, artist neighborhood. The area has always been plagued by poverty, but in recent years, entrepreneurs have recognized the district's potential and have opened up numerous restaurants and art galleries. On the first Friday of every month there is an open gallery event called "First Friday" which attracts art connoisseurs from around the city. Fountain Square was once the last stop on a streetcar line and still has a plaza where the old car turn around used to be (it was recently redesigned by Green3 in conjunction with Ninebark inc.). Fountain Square will act as an anchor for the proposed corridor.

As has been discussed before, the project's intent was to act as a prototype for sustainable development in Indianapolis. It was to this end that the corridor was selected for development and a focus site was chosen to showcase some potential design opportunities. The idea of a transit corridor became important because it allowed for multiple biomes for development and created more opportunities to locate opportunities where sustainable practices could be implemented. The corridor acted as a site for conceptual design rather than a master plan itself. The design was then able to adapt to different conditions and allow for various types of urban conditions while adhering to the overall concept of sustainable development.

## Corridor Concept Development

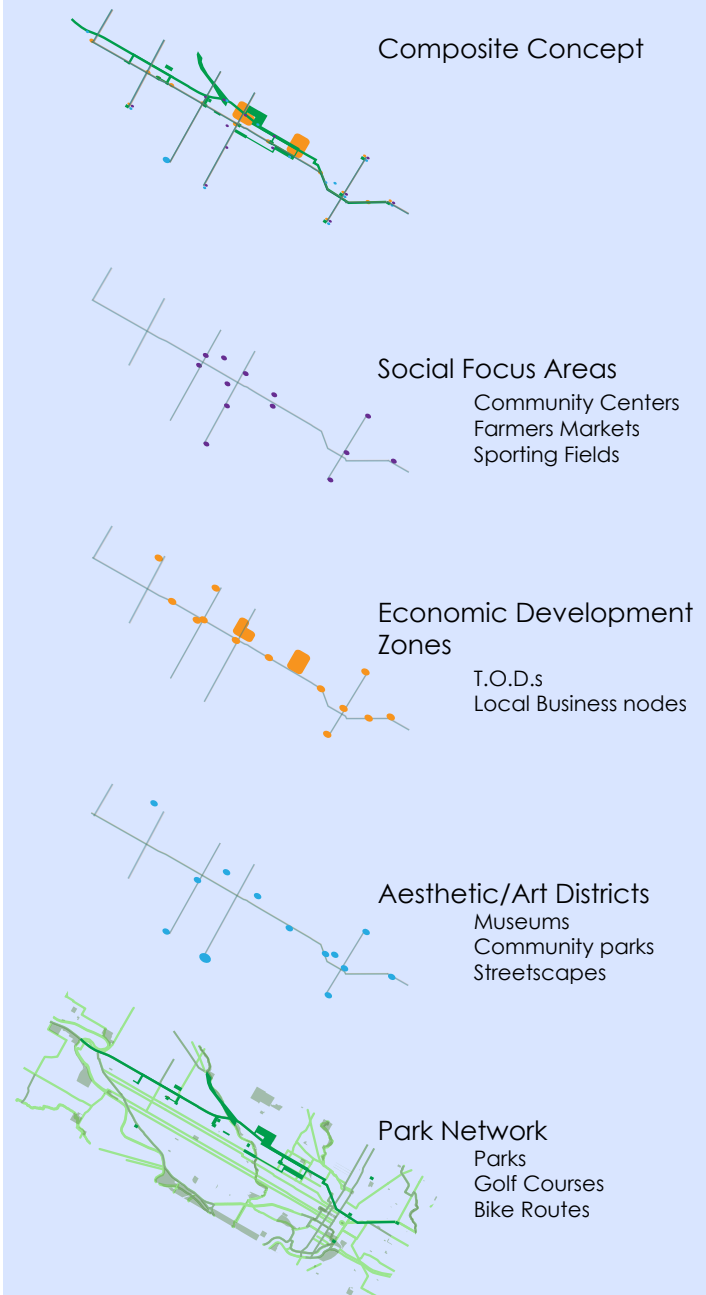


Fig.2.4 : Quadruple Bottom Line Layers

### Figure 2.4: Quadruple Bottom Line Layers

The concept for the development of the corridor is based on the idea that the corridor itself would be an instigator for growth and a way to connect the assets of Indianapolis into a network of sustainable practices. The network created by the corridor implies infill growth based upon the stability of the infrastructure associated with the corridor (local businesses can establish themselves along the streetcar line, providing more amenities for the area and influencing local economic factors).

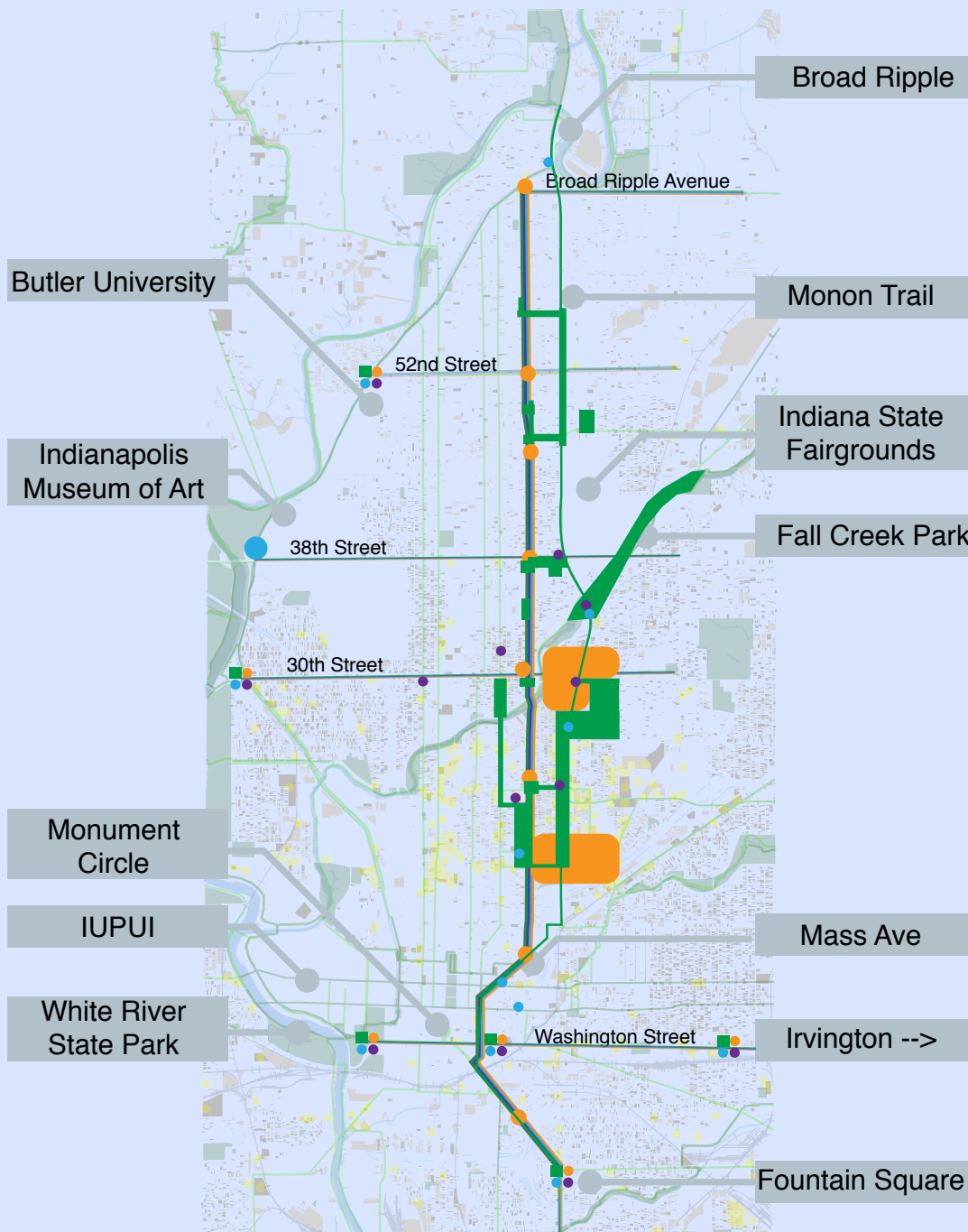


Fig.2.5 : Quadruple Bottom Line Composite

**Figure 2.5: Quadruple Bottom Line Composite Concept**  
This map shows how the corridor would act as a centralizing element in the city to connect many of Indianapolis' cultural, economic, social, and environmental assets. The green space system would help to create a primary circulation route for pedestrians and bikers that would augment the street system and connect easily with the transit system. By incorporating designed areas into the corridor and using cultural landmarks as destinations within the network, the aesthetic sustainability elements grow and

enliven the armature created by the other three "bottom lines." In this manifestation, the lines between cultural, social and neighborhood nodes are blurred intentionally to encourage more interaction while maintaining unique, place-based identities.



## Areas of Interest

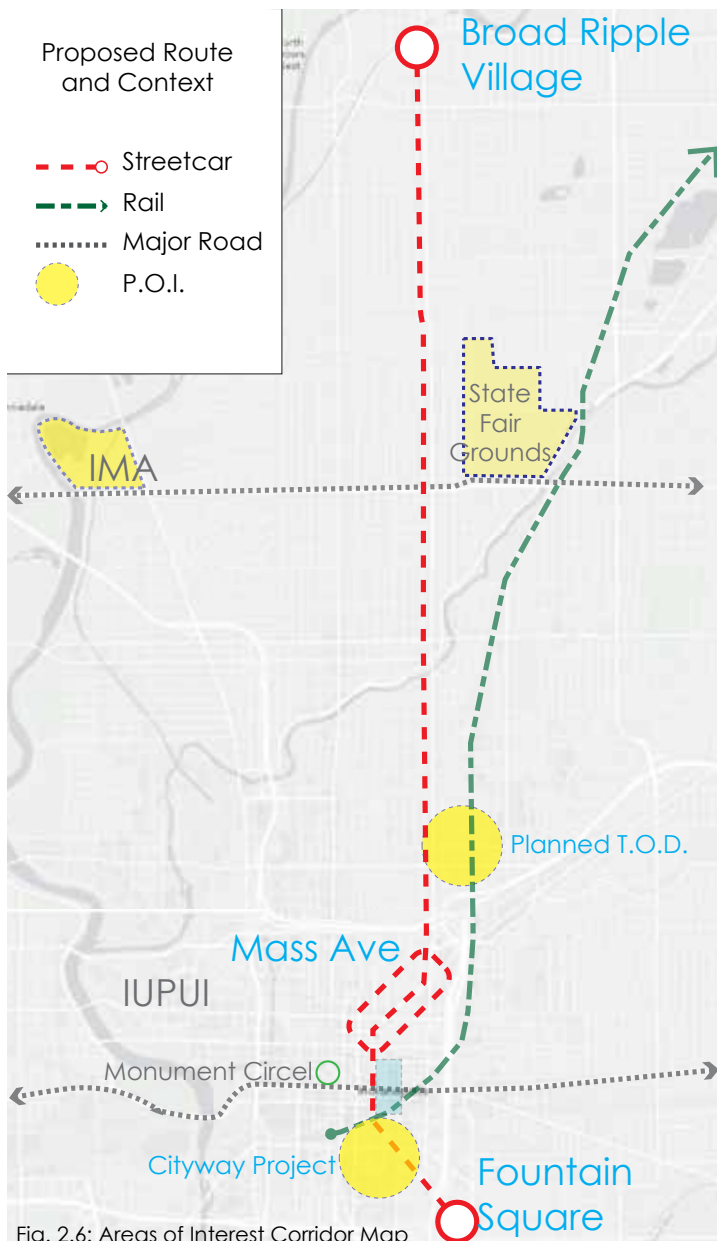


Fig. 2.6: Areas of Interest Corridor Map

The corridor is a highly diverse and integral part of the city. It connects three major cultural districts with the heart of downtown Indianapolis. Broad Ripple Village to the north and Fountain Square to the south act as anchors for the corridor. The Indy Connect proposal suggests the use of an express bus route along College Avenue, allowing for the existing rights-of-way to be maintained. For a streetcar corridor's success, the streetcar fits comfortably within the existing rights-of-way throughout the corridor. In addition, the new infrastructure could be augmented with some of the already successful green infrastructure elements being used on the Indianapolis Cultural Trail. Some of these improvements include stormwater planters, solar power, recycled material street furniture, more street trees, and native plantings. One of the overarching goals of the Cultural Trail is an improvement of the quality of life by integrating culture, art, fitness, health, alternate transportation, and environmental sensitivity. Incorporating elements from the Cultural Trail as a design motif into the streetcar corridor helps integrate the corridor into the existing cultural and social consciousness of Indianapolis.

Another important aspect of the corridor design is that it promotes alternative transportation, not just improved mass transit. The health benefits alone are a strong argument for walking and biking, but the social aspects of non-vehicular circulation are a very important aspect as well. By encouraging more non-vehicular circulation, the corridor would foster an increase in social interactions, which build social capital (the idea that loyalty and familiarity are important economic variables). By designing the corridor and encouraging public art displays, community centers and non-vehicular circulation, the social capital will grow and stabilize the local economy; thus fulfilling the Quadruple-Bottom-Line metric.



Fig. 5.3: Cultural Trail Crossing



Fig. 5.4: Cultural Trail Map

The first leg of the Indianapolis Cultural Trail was completed in 2008. When finished, the Trail will have seven sections. It connects most of downtown Indianapolis' cultural destinations.

Images from [indyculturaltrail.org](http://indyculturaltrail.org)



Fig. 5.5: Cultural Trail Signage





Fig. 2.7: College Ave. Before and After



The streetcar's infrastructure fits into the existing right-of-way (appx 100'-130'), replacing only one lane of vehicular traffic. The transit stops are seamlessly integrated into the on-street parking, along with stormwater planters to manage rain runoff. Also implemented in the plan is a two-lane, protected bike way and ample sidewalks as shown in figure 2.8.

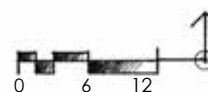
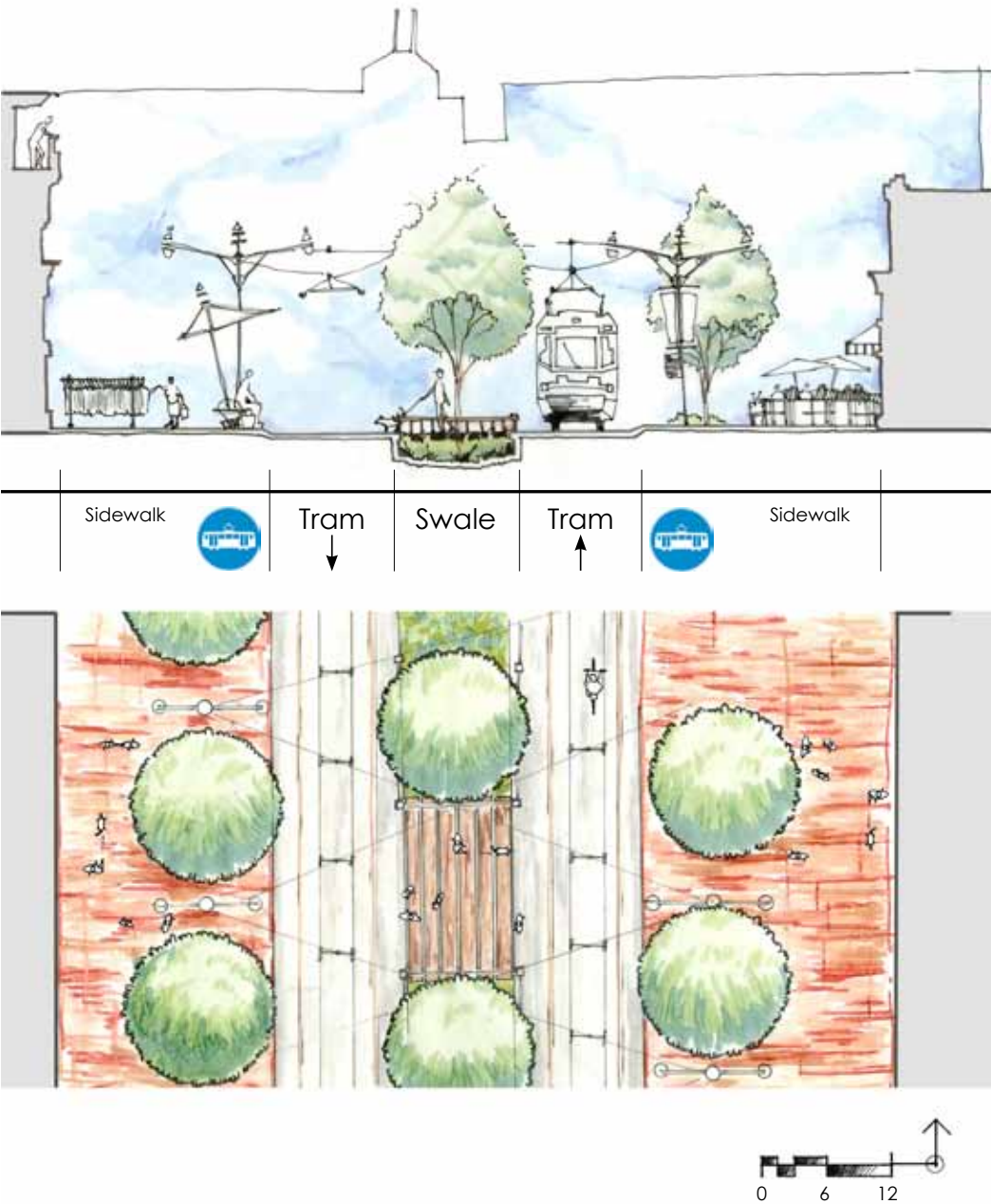


Fig. 2.8: College Ave. Street Typology

# Master Concept: Typ. Streets: Mass Ave (Ped. only)



Fig. 2.9: Mass Ave. Before and After



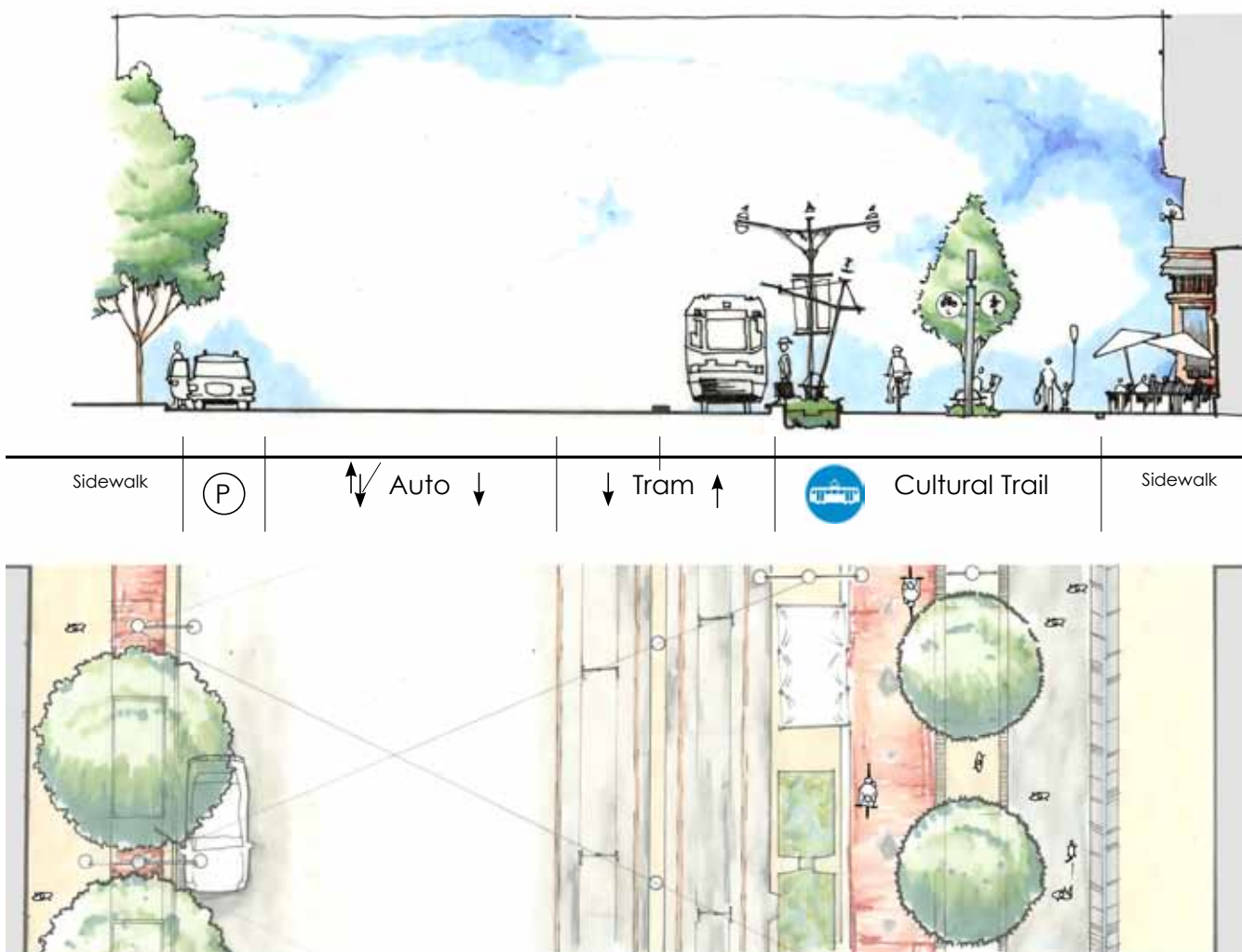
Massachusetts Avenue (also known as MassAve) is already highly pedestrianized street. The distance between façades is less than 100 feet in most places, but there are still two lanes of traffic and two parking lanes. In this re-imagining of Mass Ave, the streetcar augments the pedestrian experience by giving walkers more space to roam by cutting out the car (Fig. 2.9). This extra space translates into more street life and a more social atmosphere, making the pedestrian the top priority. The design influence for this section of the streetcar corridor is the 16th street pedestrian mall in Denver, Colorado (Fig. 5.2 on page 14). By banning personal vehicles, store owners have more sidewalk space to use, pedestrians are safer, and there is more space for stormwater management. The streetcars travel at slow enough speeds not to be a safety hazard and ensure that personal vehicles do not wander where they do not belong.

Fig. 2.10: Mass Ave. Street Typology





Fig. 2.11: Virginia Ave. Before and After



The streetcar corridor and the Indianapolis Cultural Trail run parallel through downtown. The existing right-of-way varies between 100 and 120 feet. The streetcar acts as an additional buffer for the Cultural Trail while eliminating as little as one vehicular traffic lane.

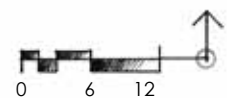


Fig. 2.12: Cultural Trail Street Typology

## Focus Site: Inventory and Context

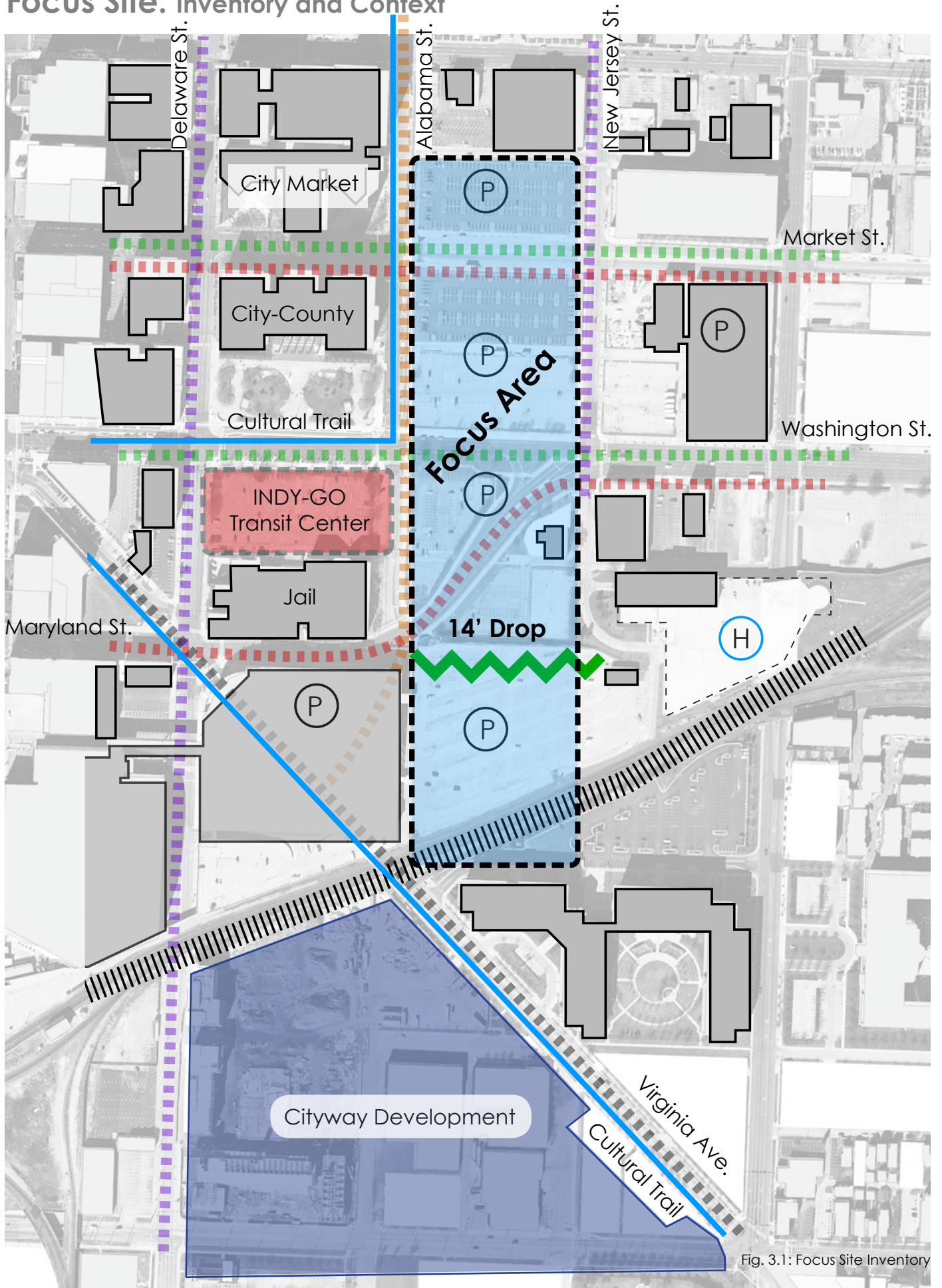


Fig. 3.1: Focus Site Inventory



As pictured in figure 3.1, the focus site was chosen due to its inevitable importance in the urban landscape once the proposed development around the area has been completed. South of the site, Eli Lily Corporation and Buckingham Real Estate Developers have started a major project called Cityway. Cityway is an urban, mixed-use development that will act as an ancillary area to Lily's headquarters and a sort of transitional zone between the city and Eli Lily. East of the focus site, small-scale redevelopment is occurring on a plot-by-plot basis. Immediately west of the focus area, IndyGO is in the design development phases of a new transit center that would act as the hub for downtown bus routes. The Indianapolis Cultural Trail runs through the site and connects it to Mass Ave Cultural District to the north and Monument Circle to the west.

The focus area itself is occupied by surface parking lots. The two northern most blocks were the former location of Market Square Arena (the former home of the Indianapolis Pacers Basketball Team). MSA was demolished in 2001, and while there have been some attempts to develop the area in 2003-2004 but funding never quite made the project feasible (and never recovered from the 2008 recession). The area became the focus of development again in March 2013 when Mayor Ballard made a RFP for the former MSA site (but at the time of this

proposal, nothing had happened yet).

In January of 2013, Indianapolis was accepted into the North American Soccer League (NASL, a division II professional league). The team was planning to play on Indiana-University-Purdue-University-Indianapolis' (IUPUI) campus until permanent arrangements could be made. Indianapolis has a very well integrated urban stadium relationship with its other professional sports teams (Colts, Pacers, Indians), and benefits immensely from the revenue brought in by the urban locations of the sports teams. Other teams in NASL have contemporary stadiums with moderate capacity in urban situations similar to the MSA site.

Indy Connect proposed a commuter rail that would have a stop on the south edge of the site. This stop would be the easiest connection to the new IndyGO transit center and a potential gateway for the city.

This proposal is intended to give the city of Indianapolis an idea of the potential of transit to act as a framework for sustainable development. The Department of Metropolitan Development was in the process of unveiling a new zoning code for the entire city called Indy Rezone. This proposal acts as an articulation of many of the principles Indy Rezone is based on and invites new ideas on combating problems through a sustainable strategy.

## Major Site Elements

- **Circulation**
  - Alabama: One-way south, moderate traffic
  - Washington Street: One-way West, heavy traffic
  - Maryland: One-way East, Bisects block, heavy traffic
  - Market Street: Two-way, moderate traffic
  - Sidewalks on all streets but few amenities
- **Topography**
  - Generally flat (<2% slope)
  - Parking north of rail is elevated 14' (fig. 3.2)
- **Future Development**
  - IndyGO transit center adjacent to focus area
  - Cityway development south of commuter rail line
  - MSA opened to developer RFP
- **Opportunities**
  - Former MSA site now parking
  - Two blocks from Monument Circle, Bankers Life Field House
  - Indianapolis Cultural Trail runs through site



Fig. 3.2: Existing Site Section showing "14' Drop" (NTS)

## Existing Conditions



## Area Included in Site Focus

## Streetcar Route





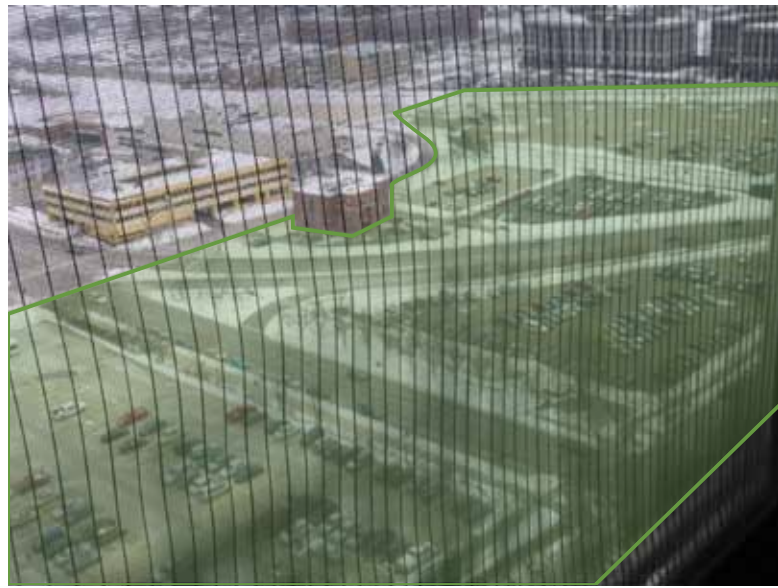


Fig. 3.3: Focus Site Existing Conditions Photographs



## Analysis

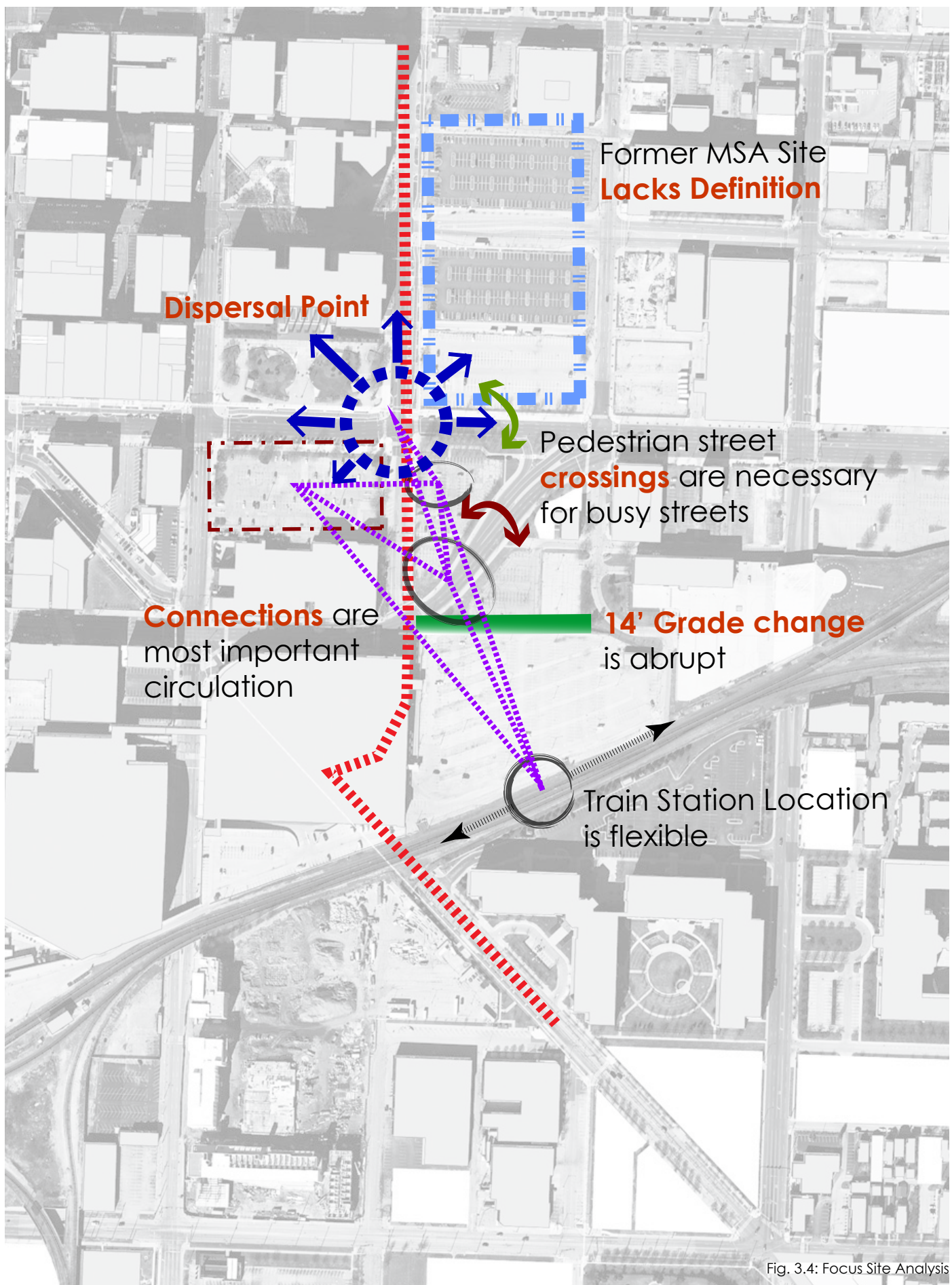


Fig. 3.4: Focus Site Analysis



## Major Analysis Elements (fig. 3.4)

- **Circulation**
  - Pedestrian Connections to Transit center, Streetcar Platform, City-County Building, and the Cultural Trail must be efficient, safe and meaningful
  - Must adjust traffic to accommodate streetcar
  - Intersection of Washington Street and Alabama Street is an important “dispersal” point and connection to the Cultural Trail
- **Topography**
  - Getting pedestrians down to street-level from the train station will be important
  - Options for 14’ grade change: Ramp, Bridge, Stair, Slope
- **Future Development**
  - MSA Site needs to be an economic anchor and destination
  - Adding an urban stadium (soccer) will tie into the existing urban stadium infrastructure (Victory Field, Banker’s Life Fieldhouse, Lucas Oil Stadium)
- **Opportunities**
  - Site acts as connection between transportation modes and the gateway into the city
  - High pedestrian traffic encourages use and helps create sense of place
  - New “urban edge” conditions helps to integrate the areas east of downtown
  - Visual Connection to Monument Circle

### Case Study: Millennium Park Chicago, Illinois



Fig. 5.6 & 5.7: Millennium Park

Chicago’s Millennium Park is one of the most identifiable parks designed in recent years. It is a highly trafficked site with a substantial amount of green space. One aspect that makes Millennium Park significant is that it is surrounded by busy streets but maintains the safety of the pedestrian. The park connects to its surroundings both at street-level and with bridges. This urban park has a strong street presence while creating multiple, unique experiences within.

### Case Study: Schouwburgplein Rotterdam, Netherlands



Fig. 5.8 & 5.9: Schouwburgplein

Schouwburgplein means “Theater Square.” This urban plaza is very adaptable and durable. It treats urban activity as entertainment and creates opportunities for unique uses of the site by its many and various users. West 8, the designers, paid special attention to the materials used and the placement of the minimal furniture, so that the plaza looks like an uninterrupted plane, but is, in fact, a continuous series of spaces on display. It is, also, technically a roof garden since it is built above a parking garage.

# Concept Overview

## Design Priorities:

Connectivity between rail, bus, and streetcar

Pedestrian safety

Creating “place” as a gateway to downtown Indianapolis

Creating an “urban edge” experience

Creating a journey

Quadruple Bottom Line sustainability examples

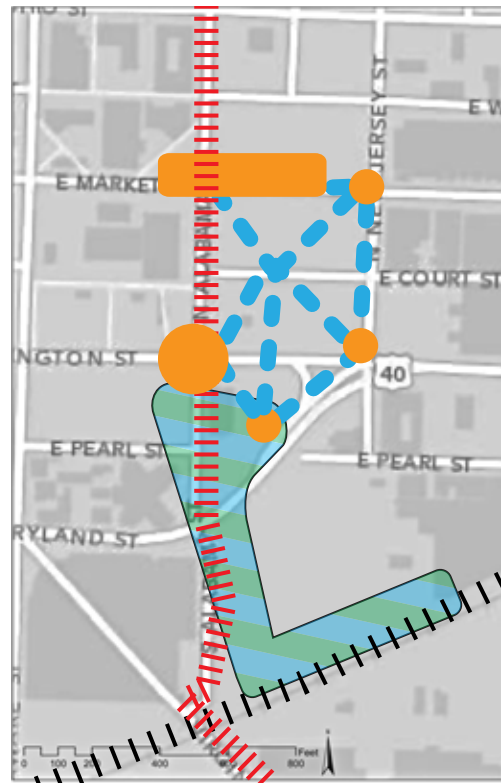
## Physical Considerations:

14 foot elevation change between rail (elevated) and street level

Generally flat topography

Alabama Street goes through the parking garage

Maryland Street circulation cannot be moved



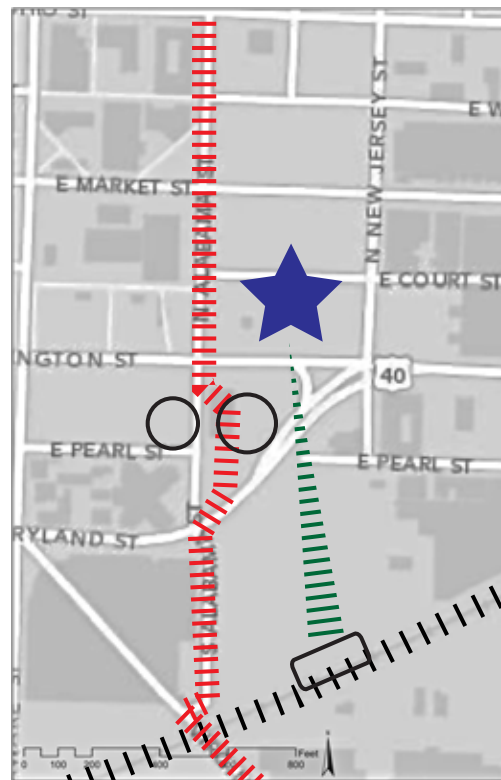
## Concept 1:

Use pedestrian circulation to create space



## Concept 2:

Use the streetcar to create space



## Concept 3:

Use destinations and functions to structure circulation



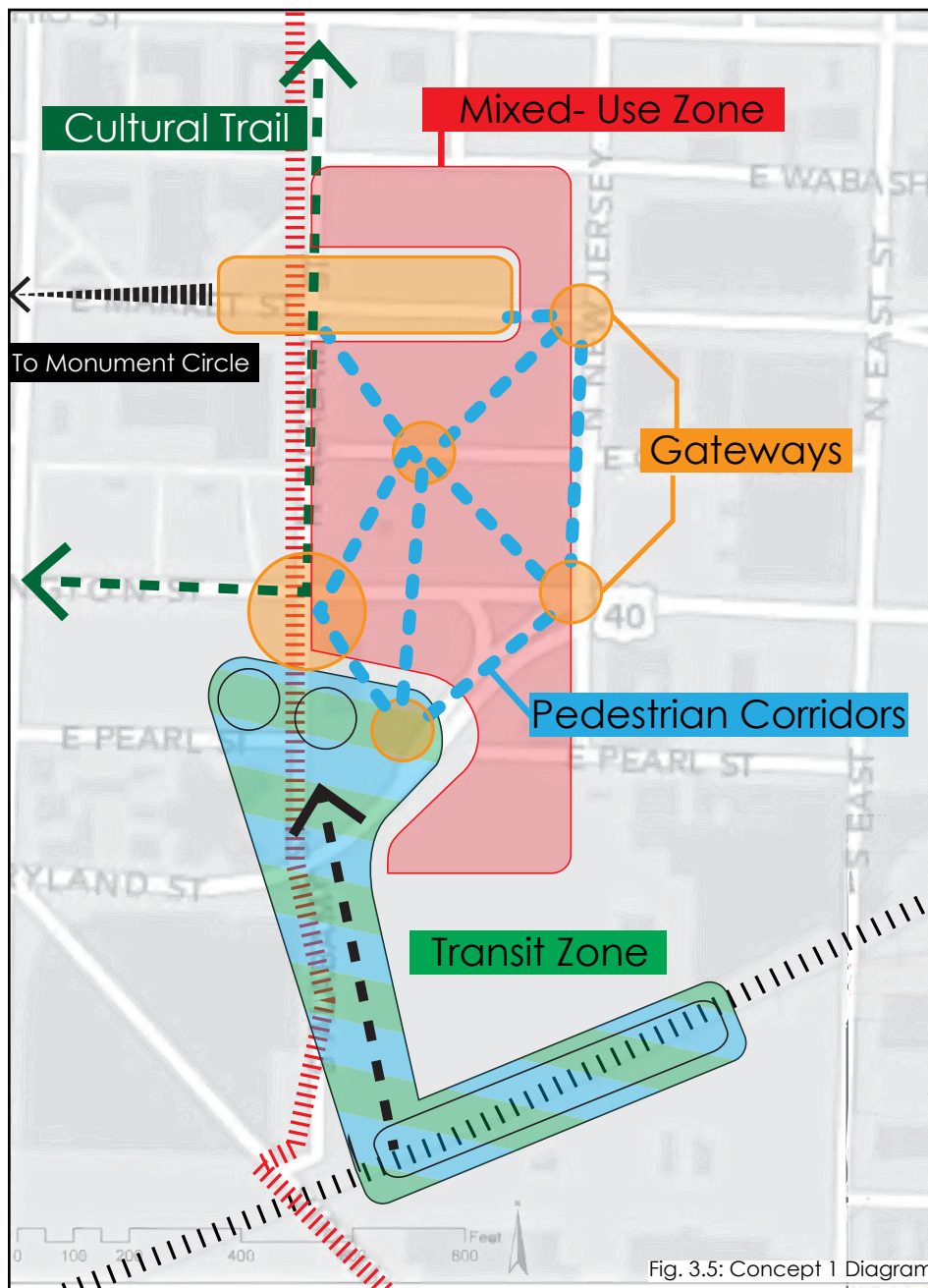


Fig. 3.5: Concept 1 Diagram

By looking at how pedestrian circulation could be used to create space and enhance the “urban edge” atmosphere, the design started moving toward multiple levels of pedestrian circulation: bringing the pedestrian above street level. While this concept provided safety and interesting views, it abstracted the pedestrian too much from the urban context and virtually surrendered the street level to the automobile. Urban areas benefit from foot traffic more than vehicular traffic (cars cannot go into shops), so it is important to ensure the presence of pedestrians at street level.

Fig. 3.5 shows the elaborated concept. The idea was to create a strong connection between the modes of transportation with an adjacent mixed-use development to support it.

Fig. 3.6 shows the spatial exploration when looking at multiple levels of circulation. The dark green is street level while the yellow is higher elevations. This concept completely separated the pedestrian from the street.



Fig. 3.6: Concept 1 Exploration

## Concept 2: Streetcar Circulation

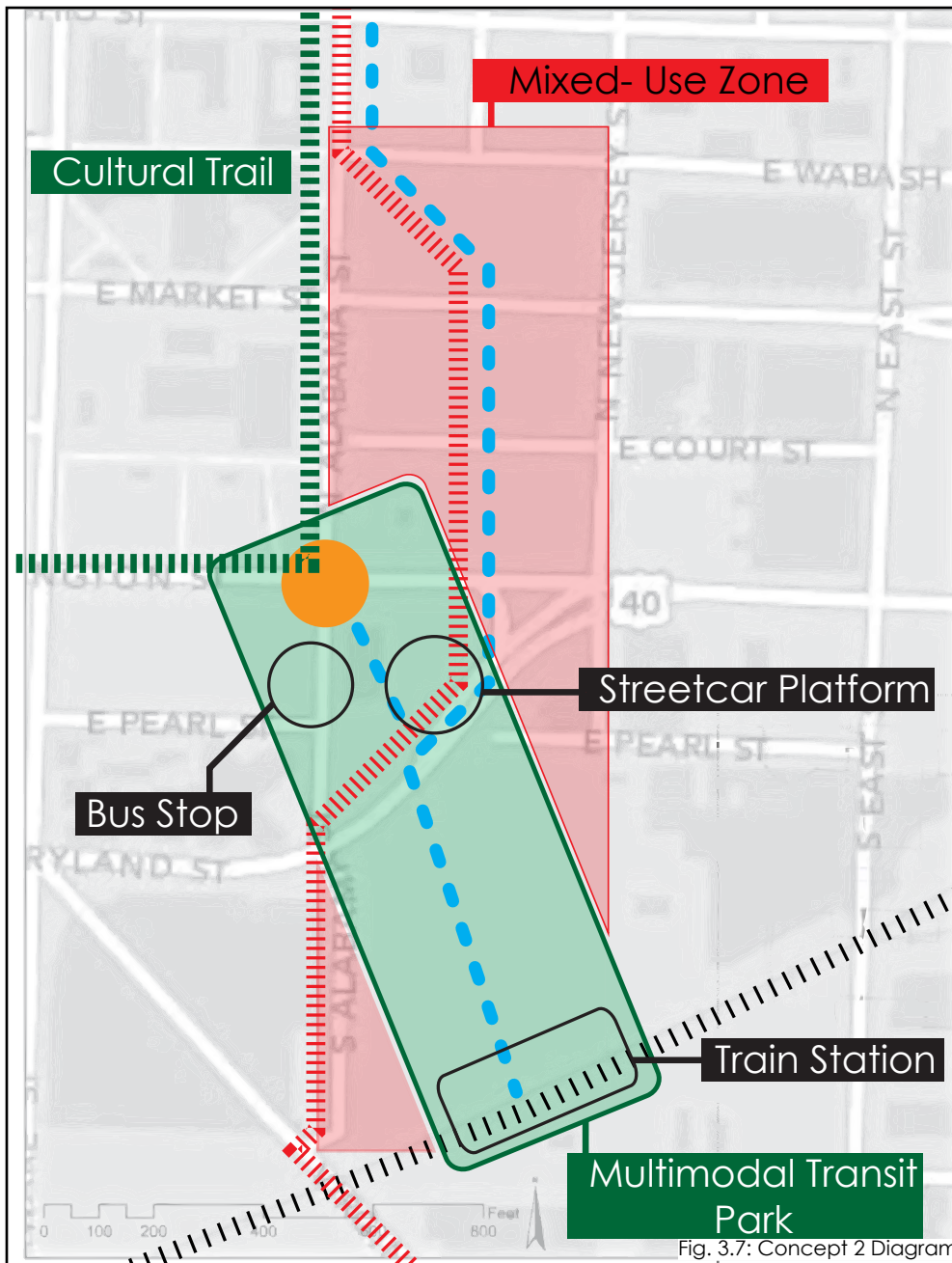


Fig. 3.7: Concept 2 Diagram

This concept examined how the streetcar could be used to create “urban edge” conditions mid-block. The idea was to create a miniature Mass Ave-style corridor using the streetcar as an organizational tool. The site could be adaptable to many different uses and building types, but the spaces within the site would ultimately be limited in utility because the streetcar would periodically interrupt.

Fig. 3.7 Depicts the design concept. By bringing the streetcar infrastructure into the middle of the block, the site aimed at being its own “edge.”

Fig. 3.8 shows how buildings could populate the site and give it an implied edge. The major development would happen where the pedestrian would have to descend fourteen feet to street level, south of Maryland Street.

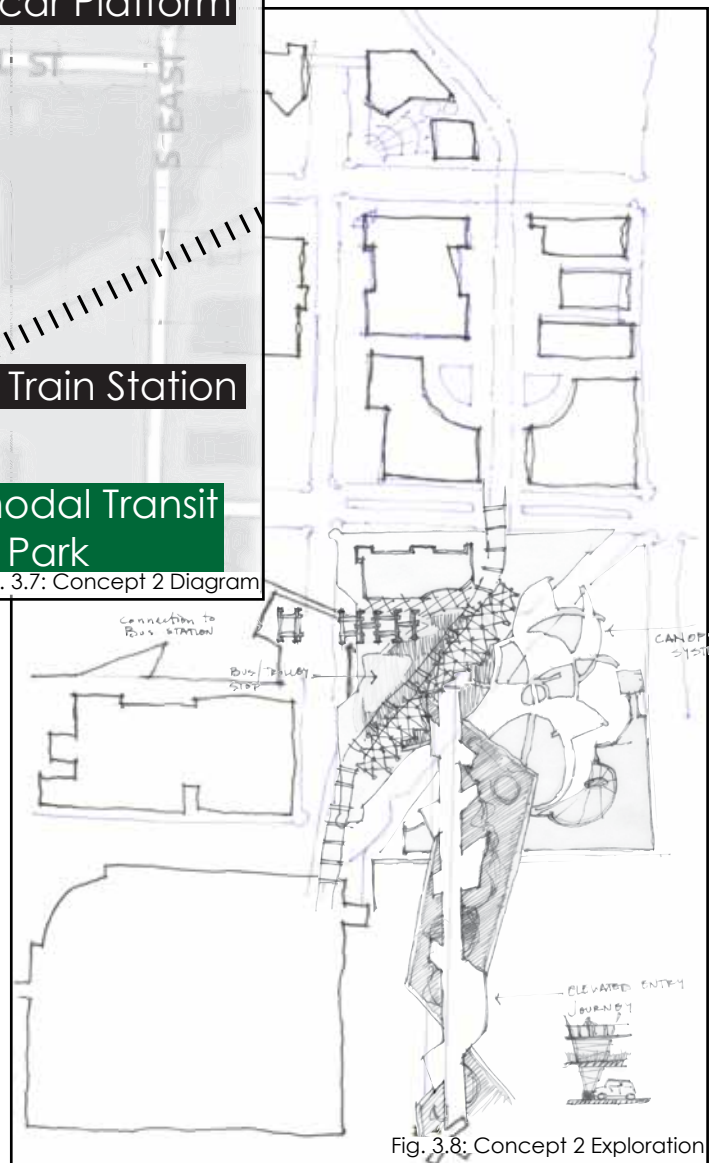


Fig. 3.8: Concept 2 Exploration



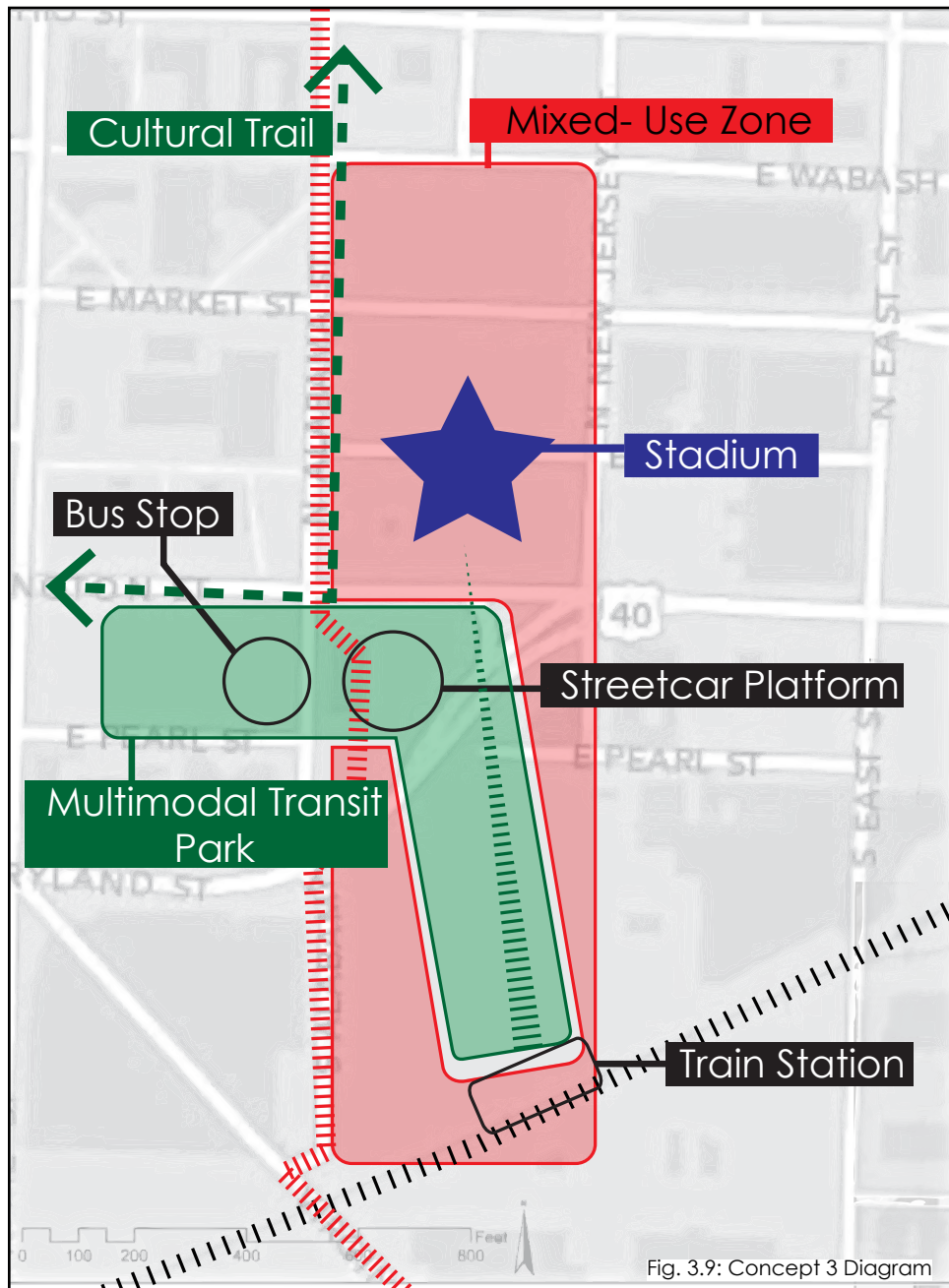
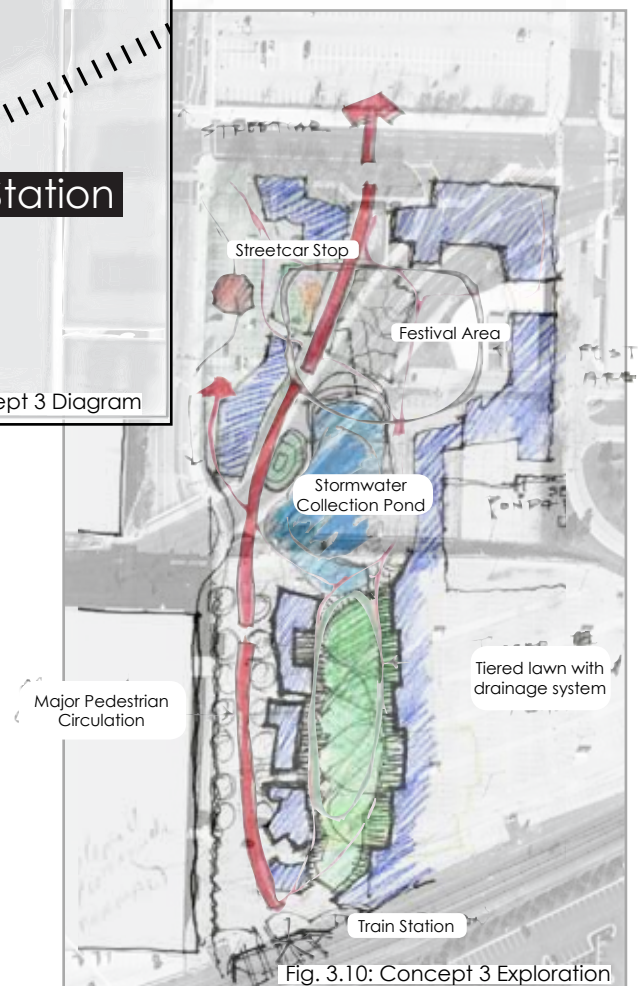


Fig. 3.9 is the general layout of spaces. The idea was to make the cite both a gateway and destination by locating a athletic stadium on site.

Fig. 3.6 is the first exploration of spatial organization. The larger red arrow is the main pedestrian circulation. Supporting developments and public space would be organized around the pedestrian axis.

Once the IndyGo transit center and the commuter rail stop are built, this site becomes a main connection and entry point for Indianapolis. This concept considers the site both a gateway to the city and a destination within itself. The idea grows on the idea of the former use of the site as a destination (MSA) and the proximity of the Cultural Trail as a pedestrian circulation element. The importance of the multi-modal transition, coupled with integrating mixed-use and civic space into the downtown make this concept the most holistic; the needs of the pedestrian come first and the proposed amenities augment the context in a meaningful way by filling in the “urban edge.”



# Contextual Design Influences

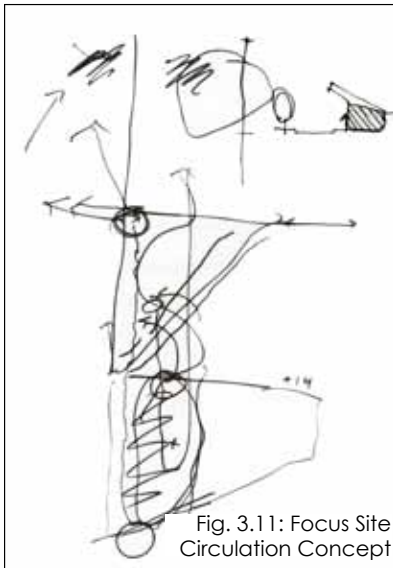


Fig. 3.11 is the first circulation concept sketch. It identifies the intersection of Alabama and Washington as a key dispersal point.

Fig. 3.12 is the first iteration of the soccer stadium that could inhabit the former MSA site.

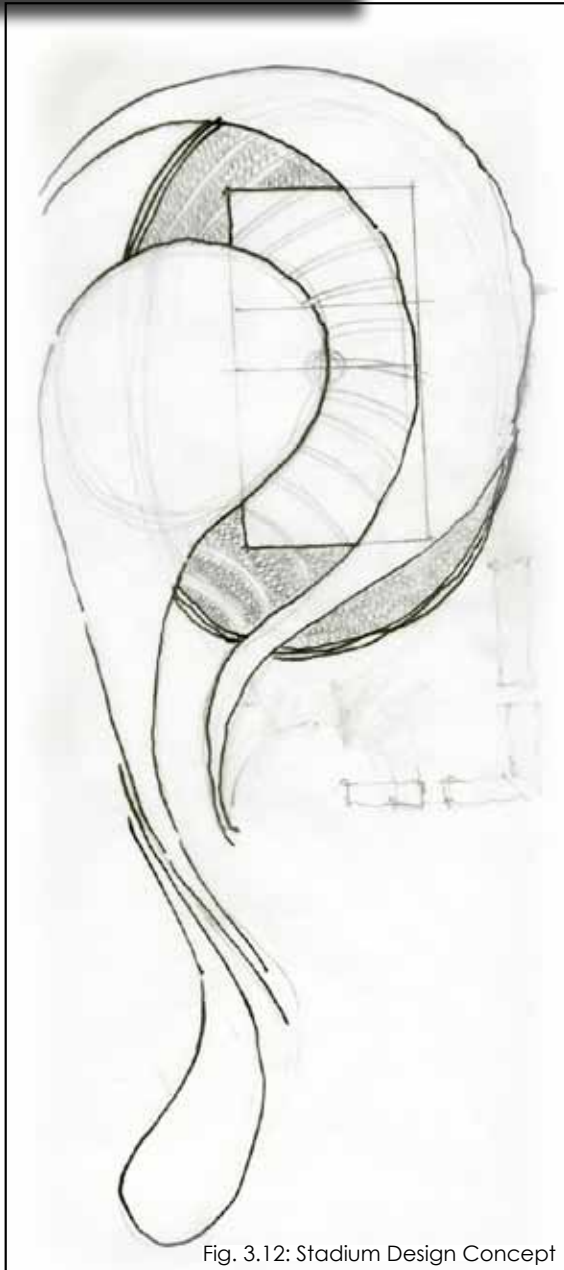


Fig. 3.12: Stadium Design Concept

## Case Study: NASL Stadiums



Fig. 5.10: Kansas City



Fig. 5.11: Miami



Fig. 5.12: New York City

Indianapolis was accepted into a professional soccer league call the North American Soccer League (NASL). Other soccer stadiums in the NASL have various contextual settings but still manage to be of considerable size. If Indianapolis were to build an urban stadium for its new NASL team, it would need to accommodate similar crowds. With three other professional stadiums in the downtown area, the former MSA site is an ideal location for the new soccer stadium. The design of the stadium could help to facilitate circulation throughout the site to the south. Similar to Market Square Arena, the Indianapolis Soccer stadium would need to be raised to allow Market Street to pass under it and accommodate parking. Theoretically, being adjacent to three transit stations, visitors would be able to arrive without a car, thus alleviating the need for parking.





Fig. 3.13: Monument Circle

Indianapolis was accepted into the North America Soccer League, a professional soccer league, in early 2013. The focus site was formerly Market Square Arena and is within two blocks of Banker's Life Fieldhouse, home of the Pacers. In addition, Market Street is one of the axes for Monument Circle (fig. 3.12), the center of downtown Indianapolis. Indianapolis, as a city, is famously laid out on a grid with angled streets pointing toward the circle (fig. 3.16). The city is nicknamed the "Circle City" because of its circle-centric design even though it is on a grid. With the contemporary growth of the city, the transit system is growing as well. IndyGo has plans to build a thirty million dollar transit center immediately west of the site (winning concept not pictured)(fig. 3.15). As part of the transit growth, some concepts for light rail and streetcar-like systems have been proposed (fig. 3.14) (though none have been voted on by the city).



Fig. 3.14: Indy Connect Light Rail Concept



Fig. 3.15: IndyGo Transit Center Competition Entry



Fig. 3.16: Historic Indianapolis Grid Map



By looking at the areas adjacent to the circulation, spatial relationships start to form and important focal points immerse. In figure 3.18, the physical connection between the stadium and the site is severed because it would not be used frequently enough to merit such importance on the site.



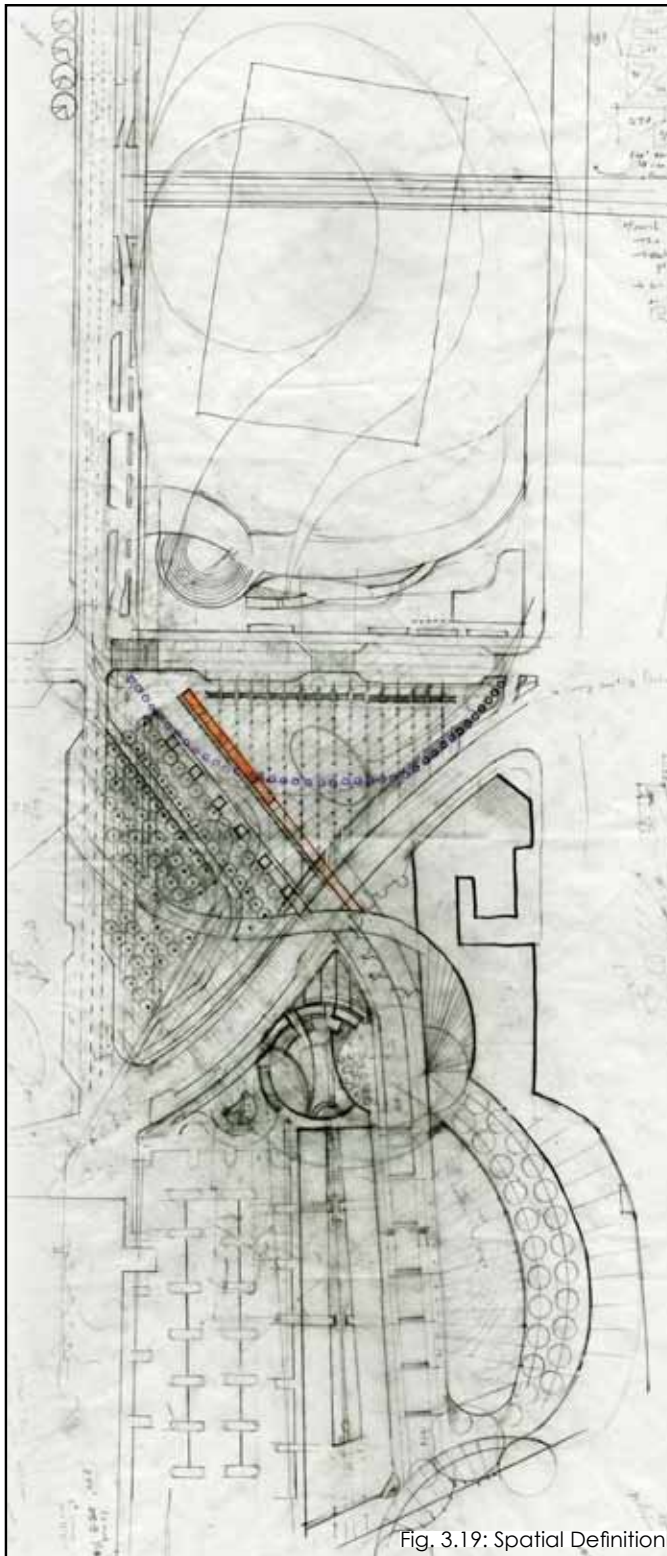


Fig. 3.19: Spatial Definition

In figure 3.19, spatial definition starts to immerse. Simple geometry motifs of circles/arcs and grids drive the formal design as recognition of the history of the city. The orange designates a ramp that connects a bridge from the second floor down to street level in a dramatic procession into the city. Quadruple Bottom Line elements and relationships are considered and spatial relationships are determined.



Fig. 3.20: Final Master Plan

In the final design, pictured in figure 3.20, spaces are clearly defined and circulation is given significance prominence. The design incorporates an upper level route that directly connects the three modes of transit that converge at this site, while the lower lever circulation (orange) acts as a grand promenade that delivers pedestrians to street level and creates a dramatic entrance to the city.



# Final Design Elements



6



15



14



8



21



13



2



17



12



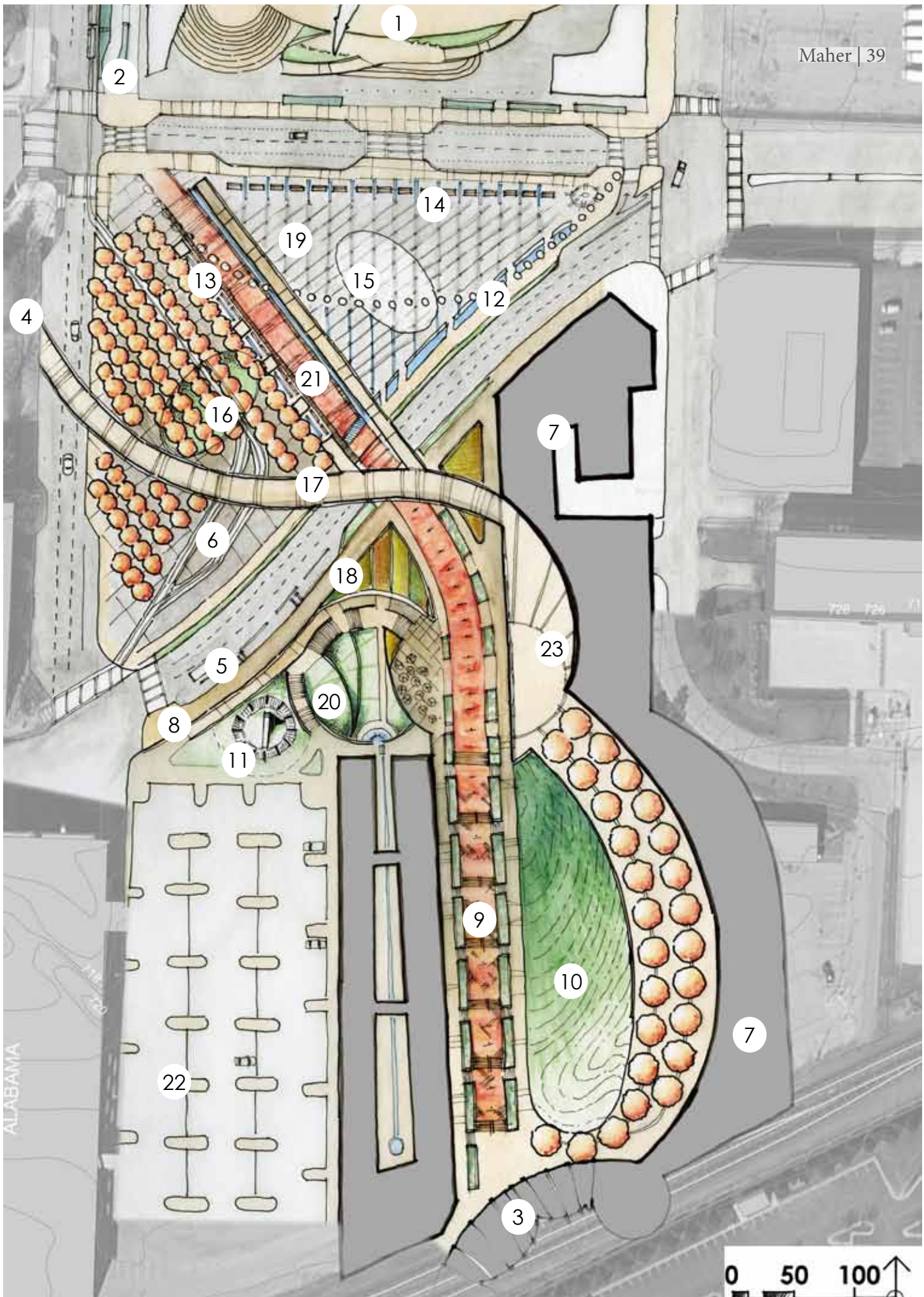
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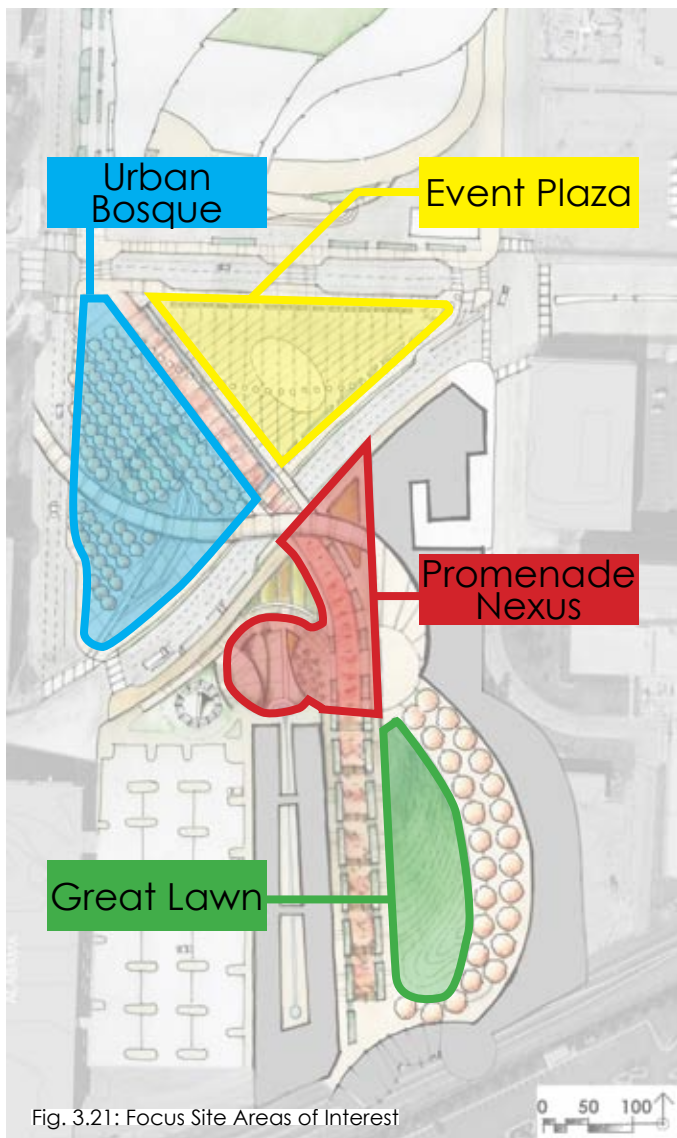
1. Soccer Stadium
2. Cultural Trail
3. Train Station
4. Bus Station
5. East-bound bus stop
6. Streetcar Platform
7. Mixed-use Retail and Lifestyle Center
8. Green Wall
9. Site Water Filtration System
10. Lawn
11. Sun Dial
12. Wind Turbines
13. Solar Panels
14. Really Cool Benches
15. Splash Fountain
16. Grassy Knoll
17. Bridge to Bus Station
18. Seasonal Plantings
19. Event Plaza
20. Terrace
21. Promenade
22. Parking
23. Art Display Area







# Design Break-Down



## Urban Bosque

The urban bosque space is intended to act as a shaded, semi-secluded space in the middle of the city. By employing the irrigation methods used in the World Trade Center Memorial plaza, the bosque helps to utilize stormwater and greywater from the splash pad. The trees are *Populus tremuloides* (Quaking Aspen) so that the shade provided is dappled and the fall color would look like a sea of soft yellow. The columnar shape of the trees allows for a denser planting, creating the illusion of a much larger space. The grassy knoll provides a respite from the hardscape and creates an alternative to sitting on benches. The streetcar platform and rails come through this portion of the site. Imagine riding the streetcar a plunging into a dense grid of trees in the middle of the city; the experience will be surreal and create an immediate identity for the place.

## Event Plaza

This space is perhaps the most adaptable. The northern edge is a row of dramatically large benches for the public to occupy and watch the events happening in the plaza, as if it were theater. In the center, there is a splash pad for the entertainment of youngsters and to help cool the microclimate of the plaza. The splash pad can be turned off when a rally or farmers' market is taking place. The southern edge that borders Maryland Street is adorned with a linear water feature that is lined with stone benches to allow people to dip their feet on a warm day. To help create vertical spatial definition, small wind turbines on tall poles dot the space in an arc. The turbines help create power and make the site visible from the surrounding areas. The west edge of the plaza is defined by the ramp that descends from the bridge down to the intersection of Alabama Street and Washington Street. Adjacent to the ramp, defining one edge of the promenade is another branch of the linear water feature from the Maryland Street edge.

## Promenade Nexus

The promenade is the dramatic gateway from the train station down to street level. The promenade descends fourteen feet and arrives at street level in the area called the Nexus. The east edge of this space is the main entrance to the mixed-use lifestyle center. The west portion of the nexus is the terraced lawn. The terraced lawn is intended to be a semi-secluded open space that is adaptable to everything from lunchtime picnics to small theater performances. The terraces are all ADA accessible and provide great observational opportunities to watch commuters arriving from the train and entering the city. One of the understated details of the promenade is its integrated stormwater management. Running in two parallel tracks, stormwater planters collect and clean runoff from the upper levels and filter it to a large triangular basin near Maryland Street. The basin would allow for the water to percolate into the ground rather than going into the sewer. In addition to the basin, any water not handled by the basin would be piped over to the bosque to help irrigate the trees.

## The Great Lawn

The Great Lawn serves two main purposes. The first is to be an open space for residents of the mixed-use center to use for both passive and active recreation. The slope of the lawn is noticeable but not uncomfortable, resulting in an adaptable space that is great for people watching, reading, or even taking a mid-afternoon nap. The second major function of the space is to help collect and funnel stormwater down into planters and the basin mentioned above.

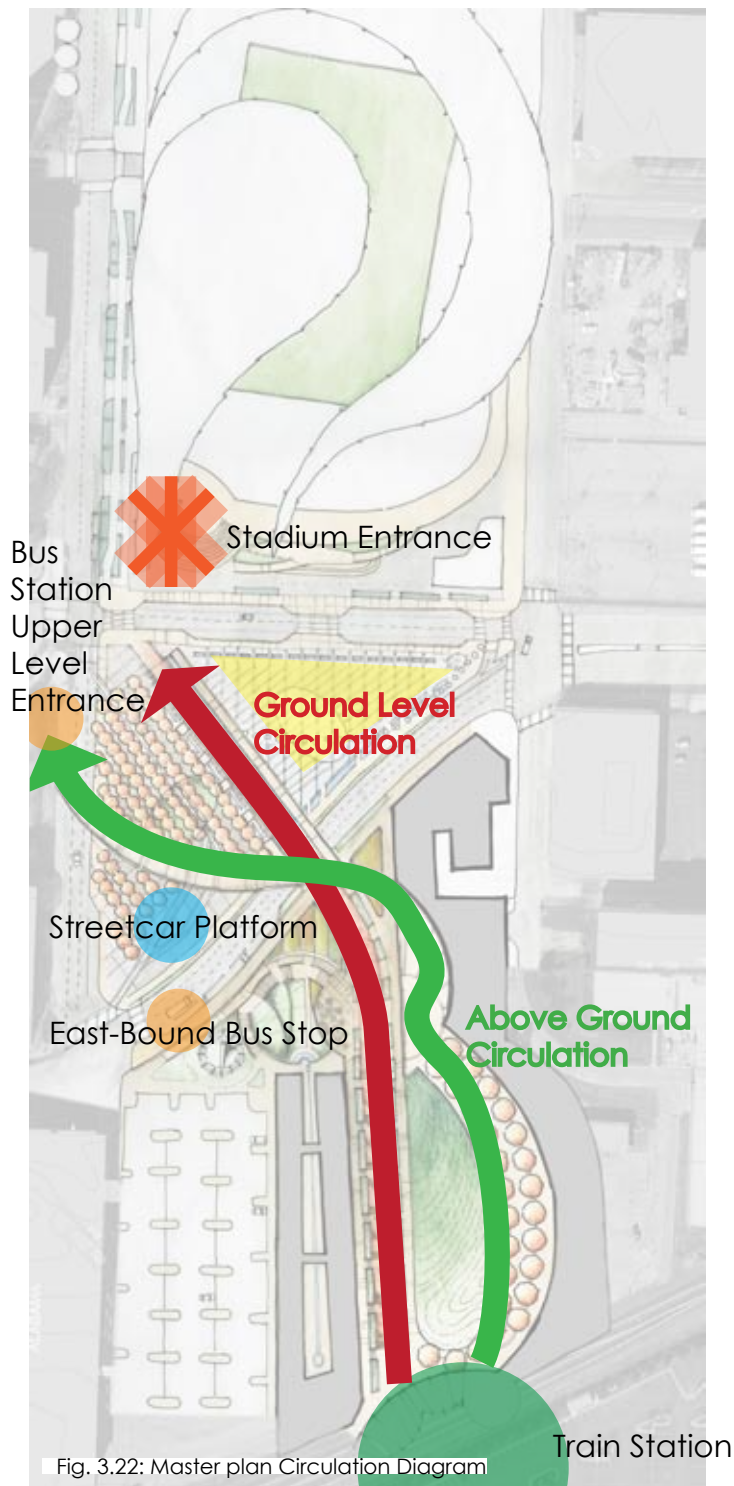
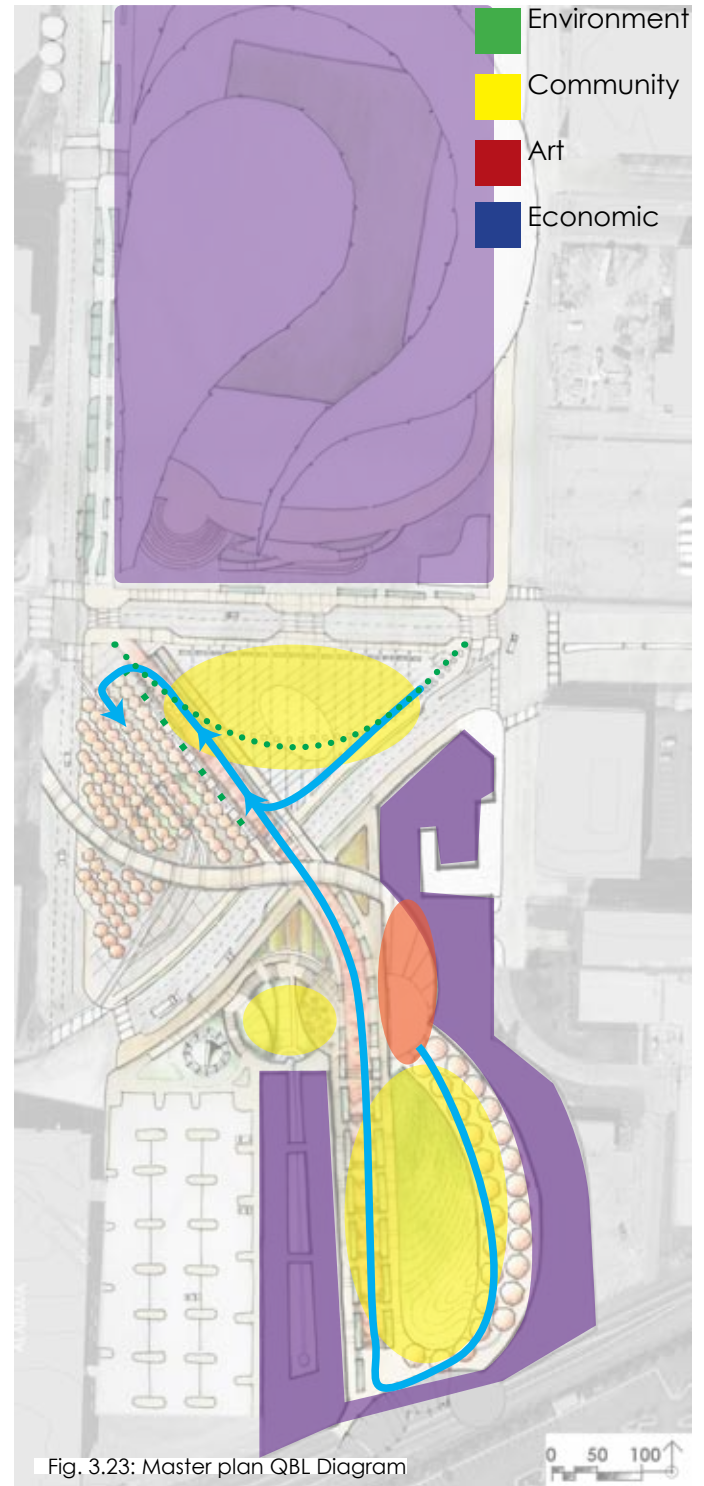


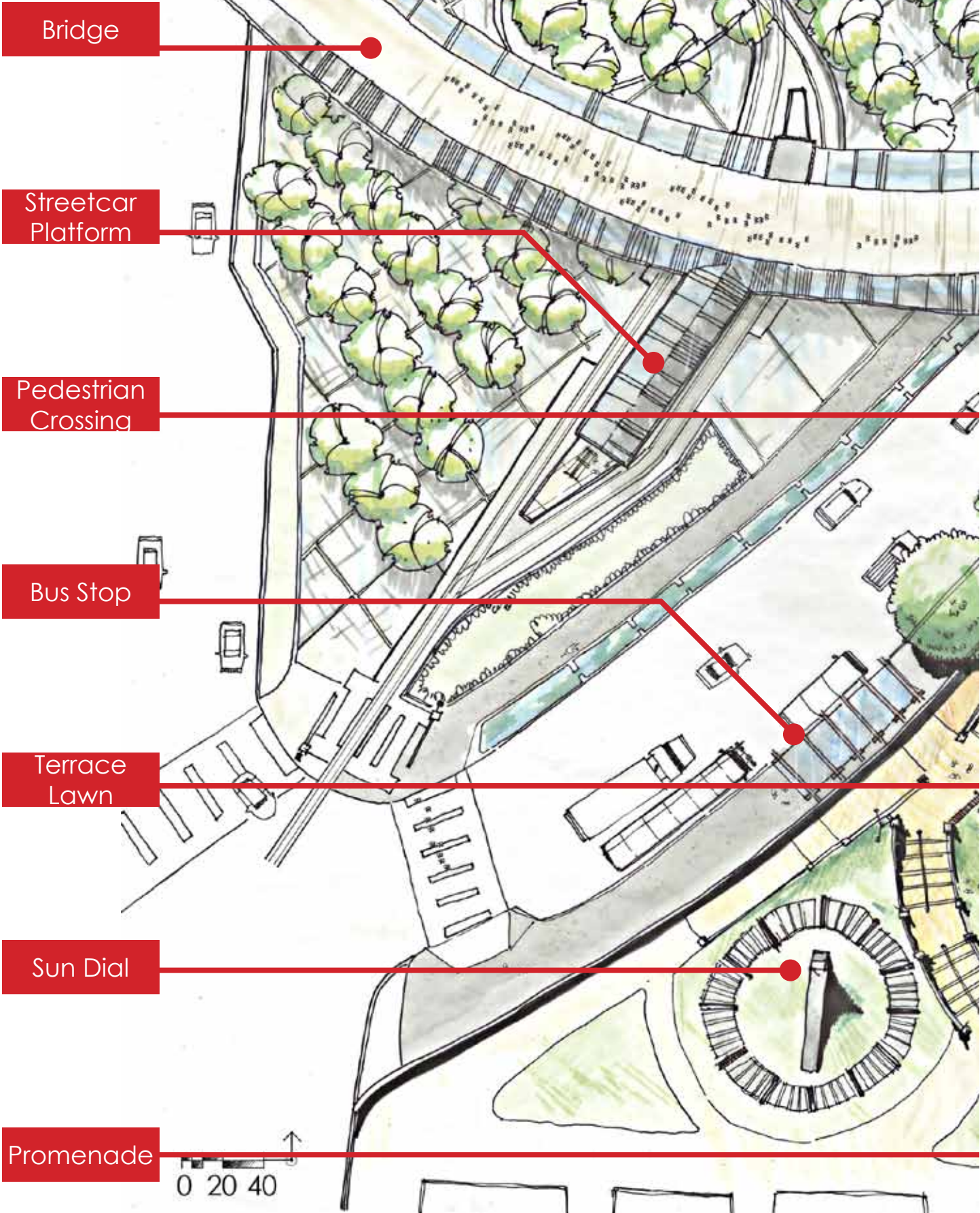
Figure 3.22 depicts the separate circulation routes. The green represents the upper level route that connects the train station to the transit station and the streetcar platform. Instead of descending to street level, the green circulation route climbs to twenty-eight feet above grade. The red circulation route, the promenade, descends fourteen feet from the train station to street level. The promenade is flanked to the west by a mixed-use/hotel development and to the east by the great lawn. The promenade crosses Maryland Street and turns forty-five degrees giving the pedestrian its first, dramatic view of downtown Indianapolis.



The focus site aims to be a showcase for sustainable practices. Figure 3.23 shows how several aspect of sustainable design were incorporated into the site as defined by the Sustainable Site Initiative (<http://www.sustainablesites.org/>). The mixed-use areas, the stadium and the hotel would be the economic anchors for the site. Where the pedestrian bridge meets the mixed-use center, a community art exhibit area would announce the space as a community-centric place. The integrated stormwater management system, wind turbines and solar panels are all environmentally focused elements for the focus site.



# Master Plan: Promenade Nexus





The greatest difficulty in the design of this site was how to deal with Maryland Street for pedestrians. One of the most important connections is between the commuter rail station and the transit center. This zoom plan shows where the bridge connects to the upper level of the mixed-use center and how the promenade expands and contracts to focus the pedestrian toward one, main crosswalk. This street level crosswalk would have a traffic signal for pedestrians.

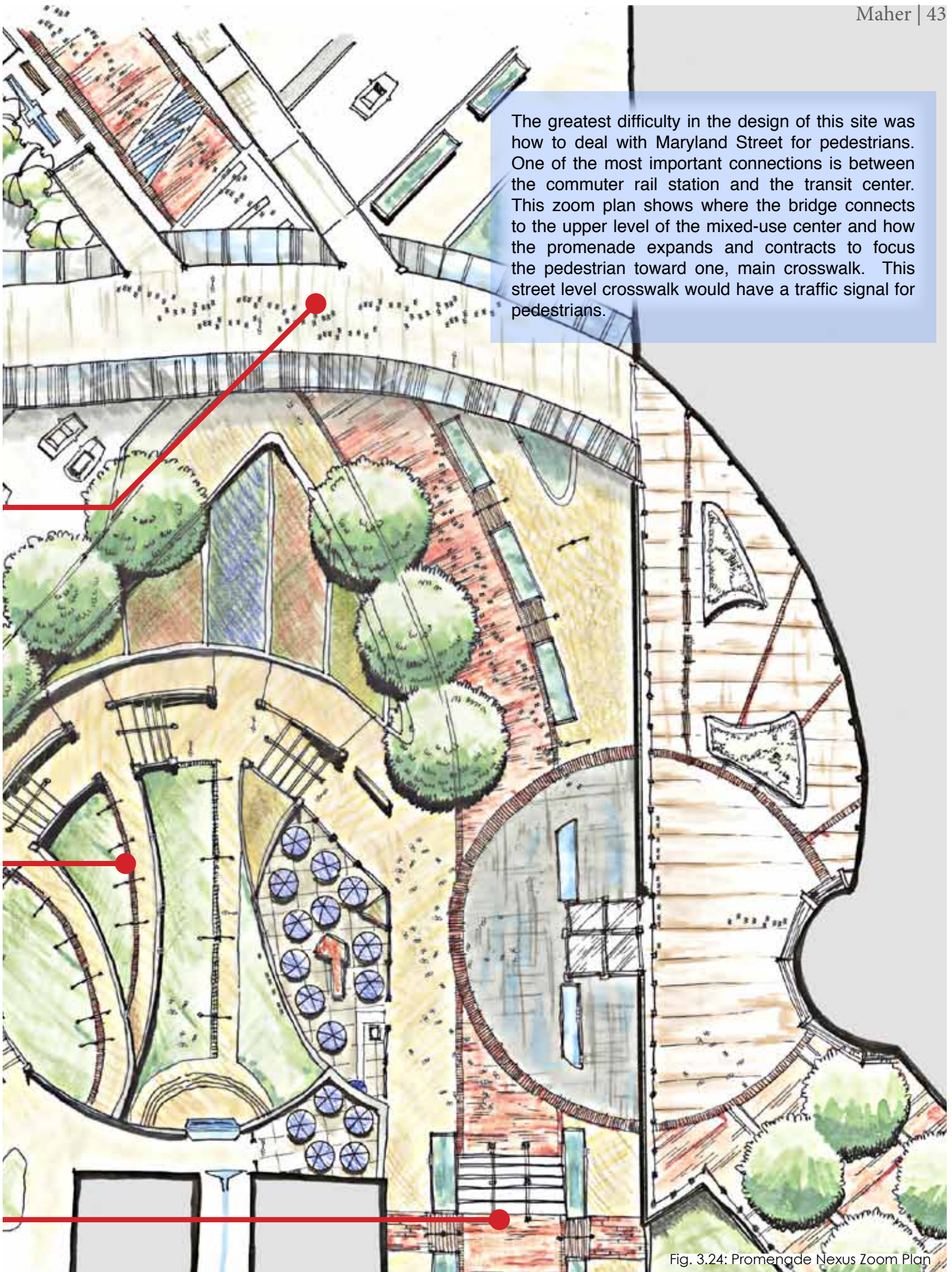


Fig. 3.24: Promenade Nexus Zoom Plan



## Focus Area Spatial Relationships



From this view, the spatial enclosure of the terraced lawn is apparent. As the pedestrians approach street level on the promenade, there is a crosswalk at Maryland Street with a traffic signal to ensure safety. The sun dial acts as a landmark that can be seen from the surrounding area.



Fig. 3.25: View from the top of the terraced lawn





From the intersection of Maryland Street and Alabama Street, the green wall is a major visual element. Integrated into the wall is a transit schedule, visible from the rest of the site, that helps visitors negotiate different modes of transportation more easily.



Fig. 3.26: View along Maryland Street toward pedestrian bridge



## Focus Area Spatial Relationships



The view from the second level over the terraced lawn shows the great difference in elevation. From the second level, the bridge connecting to the transit center can be accessed. The lower level is the active focal point of the south portion of the site. The terraced lawn is an adaptable space, designed to accommodate small to medium sized gatherings for concerts, rallies, plays and other civic events.

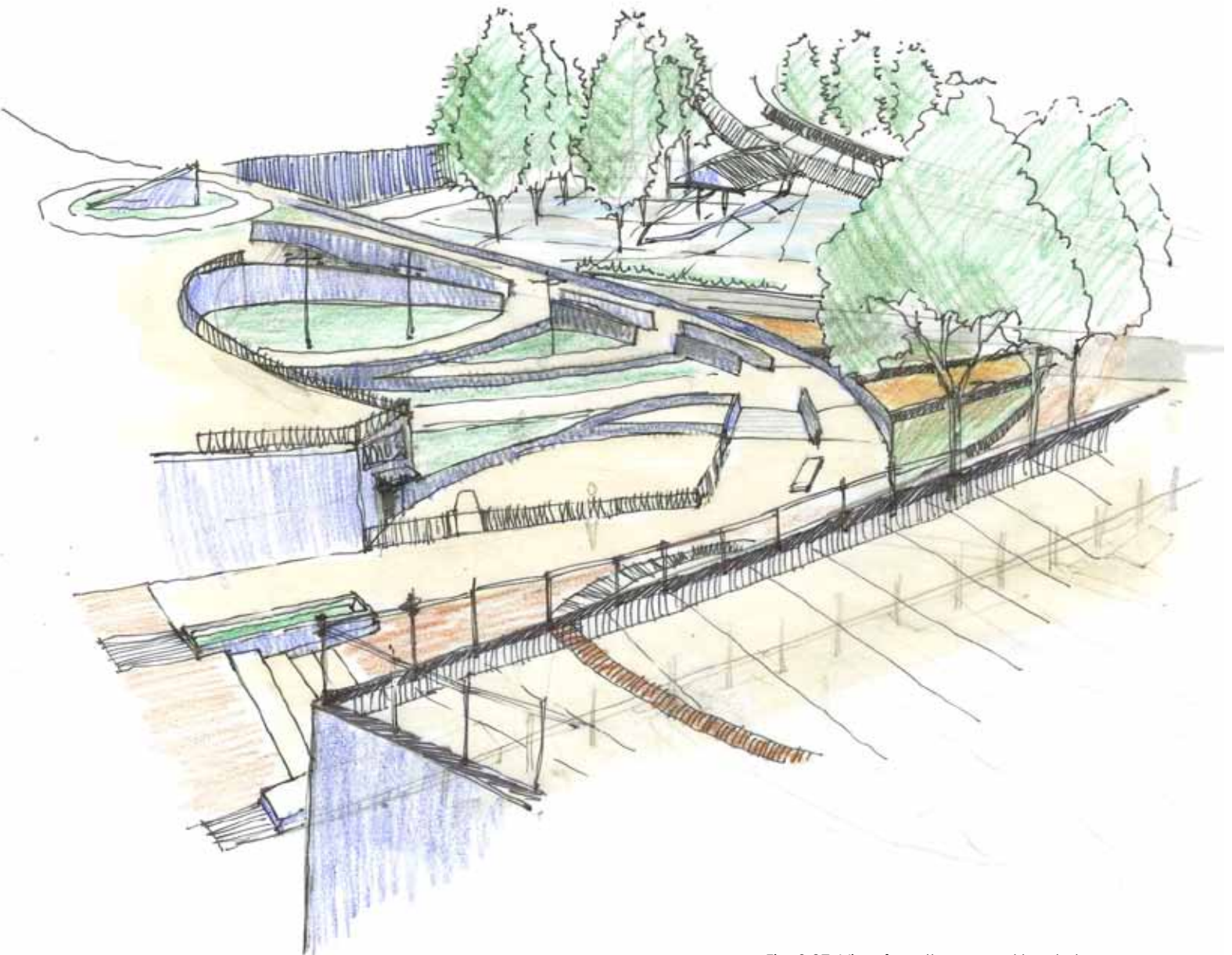


Fig. 3.27: View from the second level plaza space





From the City-County Building, the bridge that connects the south portion of the focus site to the transit center makes a dramatic sweeping gesture. The promenade crosses Maryland Street after passing through the visual focal point at the base of the terraced lawn. This space is adaptable as a circulation route and as a gathering point.

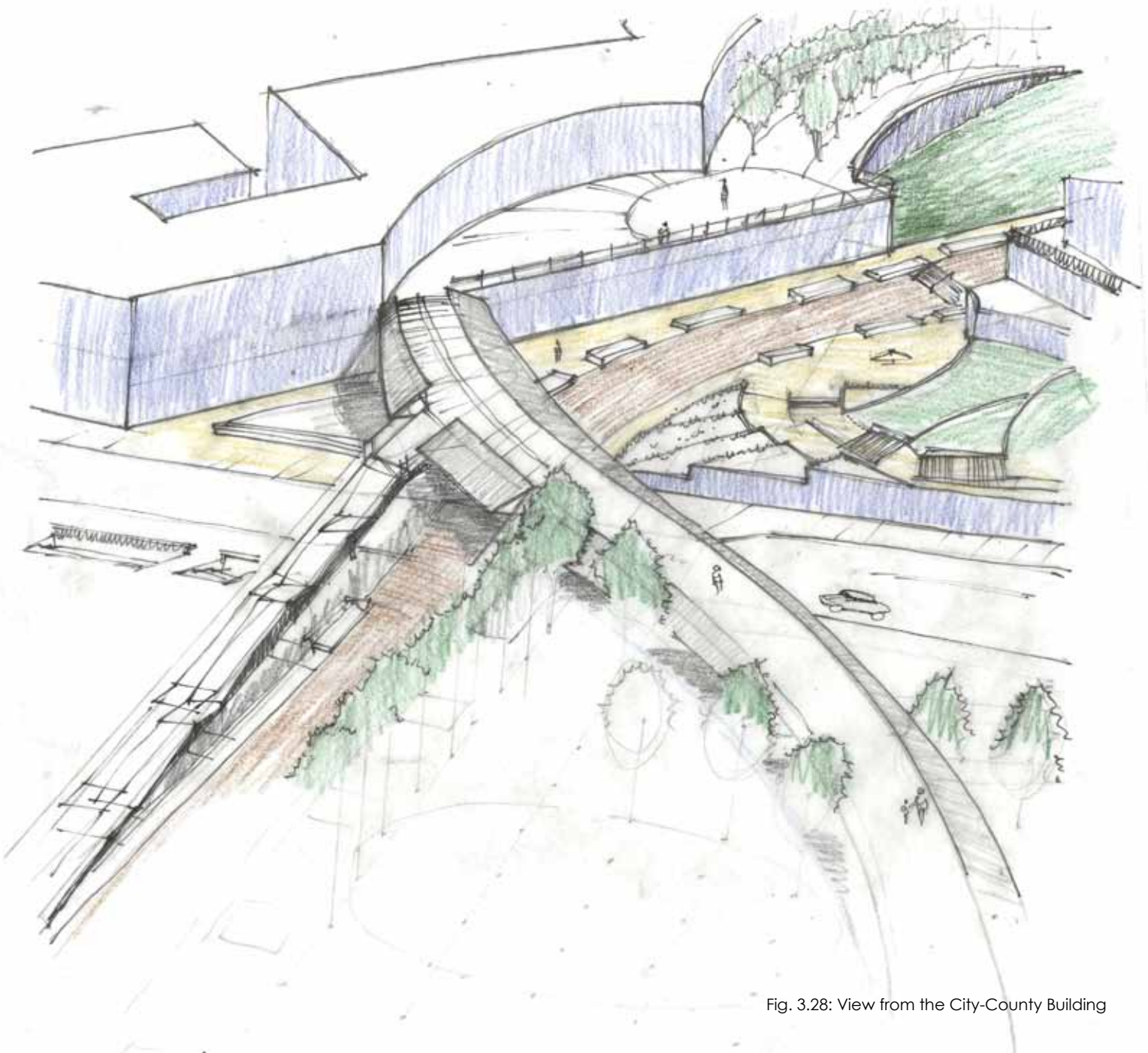


Fig. 3.28: View from the City-County Building



## An aerial photograph of the University of Illinois at Chicago campus. Four red lines with labels A, B, C, and D indicate specific areas of interest. Line A points to a large, modern building complex. Line B points to a large, circular building. Line C points to a large, rectangular building. Line D points to a large, rectangular building. The image shows various campus features including buildings, roads, and green spaces.

Since the train station is fourteen feet above street level, the initial pedestrian experience has two options: descend to street level along the promenade, or climb up to the upper level to the bridge to the transit center.

Where the promenade reaches street level, there are three different areas defined by levels: the upper level that connects to the bridge, the parking lot/terraced lawn area, and the street level where the promenade approaches Maryland Street.

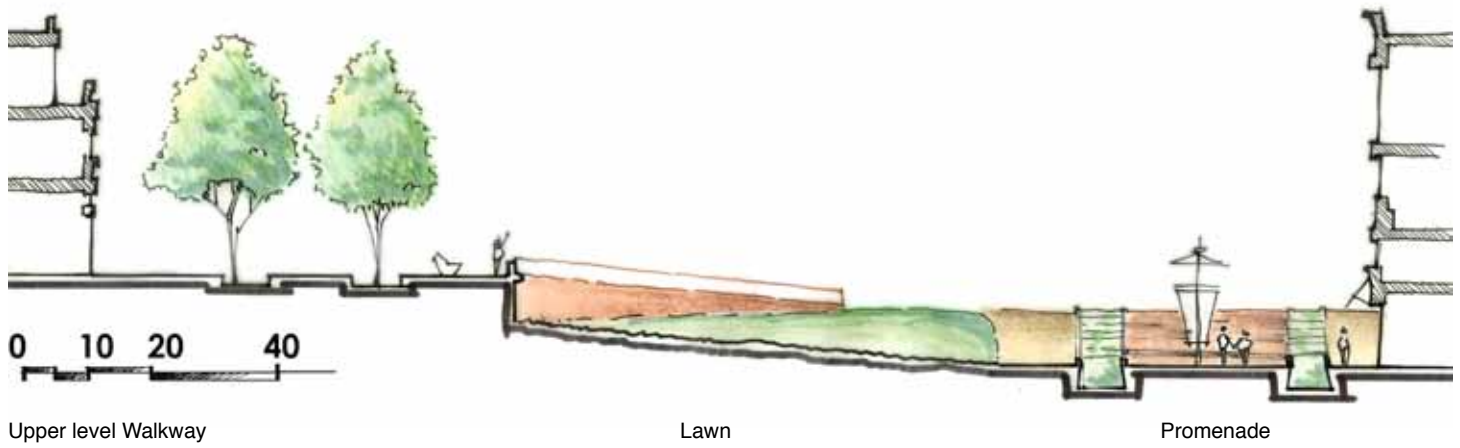
The northern portion of the site is designed to allow for multiple uses to coexist. The event plaza can hold a rally or simply, weekday lunchers. The promenade acts as a gateway for the city but has ample seating and a different atmosphere than the plaza. The streetcar enters the site but is secluded to the bosque area so that it does not interfere with the other activities on the site.

While the width and the signage stay the same the character of the promenade varies slightly north of Maryland Street in a number of ways. The path is flanked by a ramp to the east that connects the bridge to the intersection of Alabama and Washington Streets and to the west, mirroring the height of the ramp. There are structures that hold solar panels to create electricity; there is a linear water feature that passersby can dip their feet in; and the plantings are no longer for stormwater filtration but rather for spatial definition.

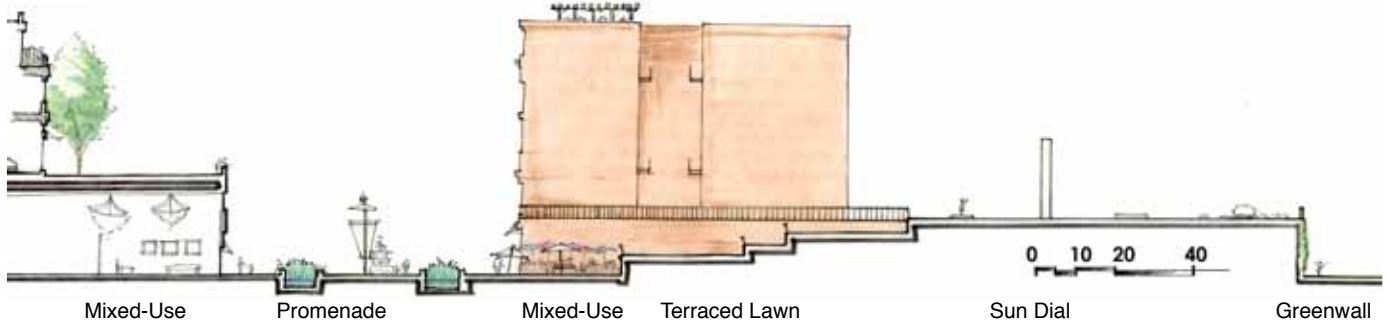
Fig. 13: WTC Irrigation

One important aspect of the design of the urban bosque is that it uses stormwater to irrigate the trees. The system used at the World Trade Center Memorial Plaza has an integrated irrigation system and hardscape layout that allows the trees to have enough soil and water while being durable enough to handle heavy urban foot traffic. Any overflow from the retention basin south of Maryland Street would be added to the stormwater collector for the bosque irrigation.

Section A: Relation of spaces as pedestrian reaches street level or bridge



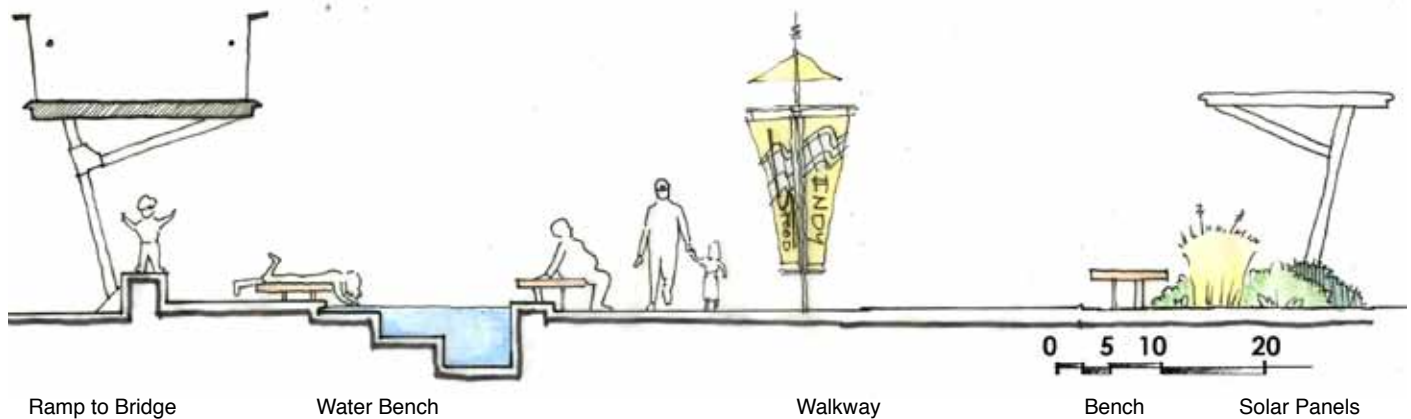
Section B: Terraced lawn and relationship to promenade and parking



Section C: Contrast and variety of spaces on northern portion of site



Section D: Promenade detail on northern portion of site



# Construction Documentation: Grading Plan

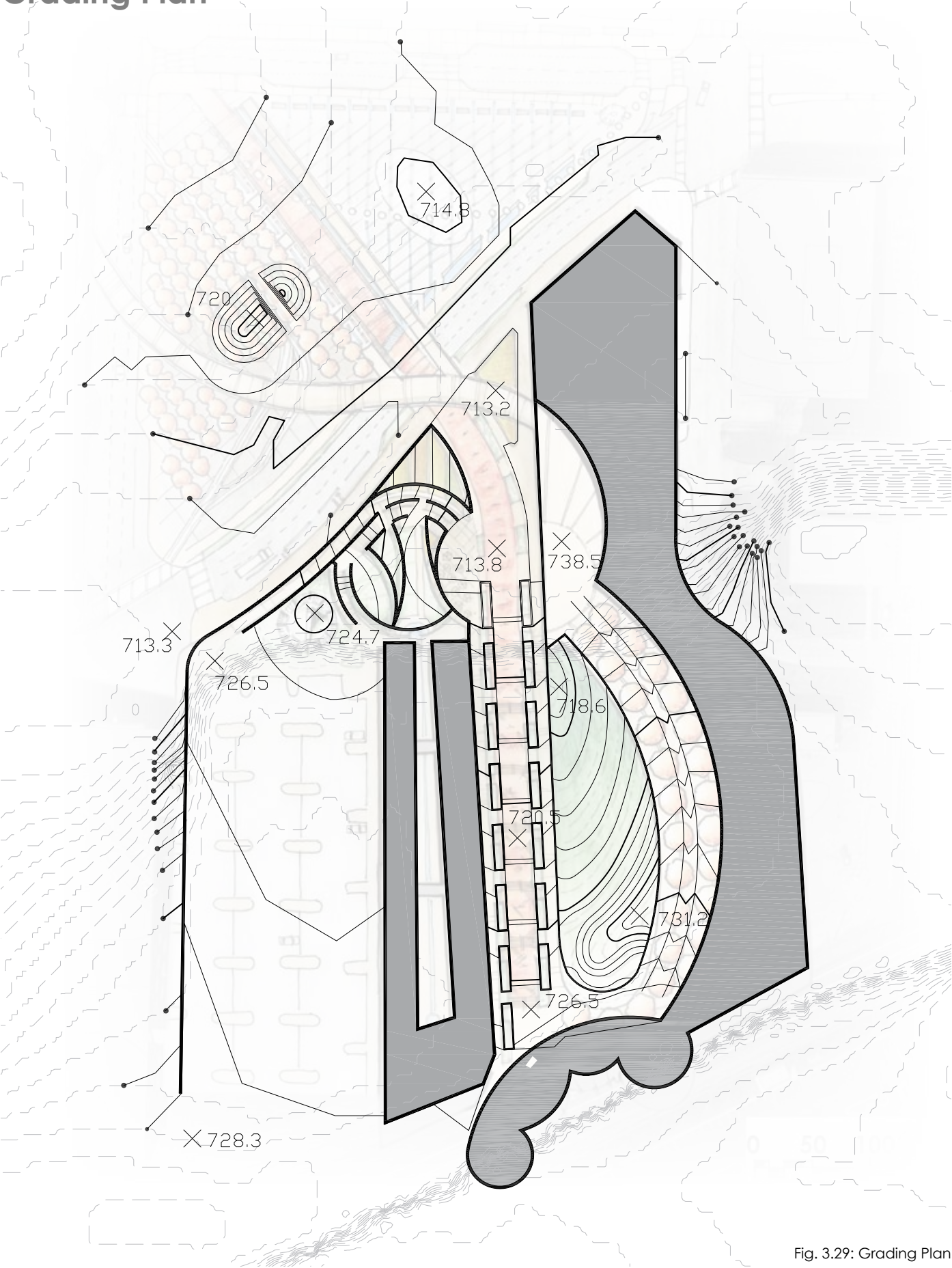


Fig. 3.29: Grading Plan



# Construction Documentation: Terraced Lawn Section Detail

The terraced lawn is designed to step down gently and provide implied seating. The walls do not represent significant grade changes, which allows the space to blur the lines between terraces. The concrete paths are brick-lined to ensure the safety of people with seeing impairments. The lawns tilt downhill to avoid puddling effects. The terraced lawn area is intentionally design to accommodate all ages and abilities as a subtle transition between the upper and lower levels of the site.

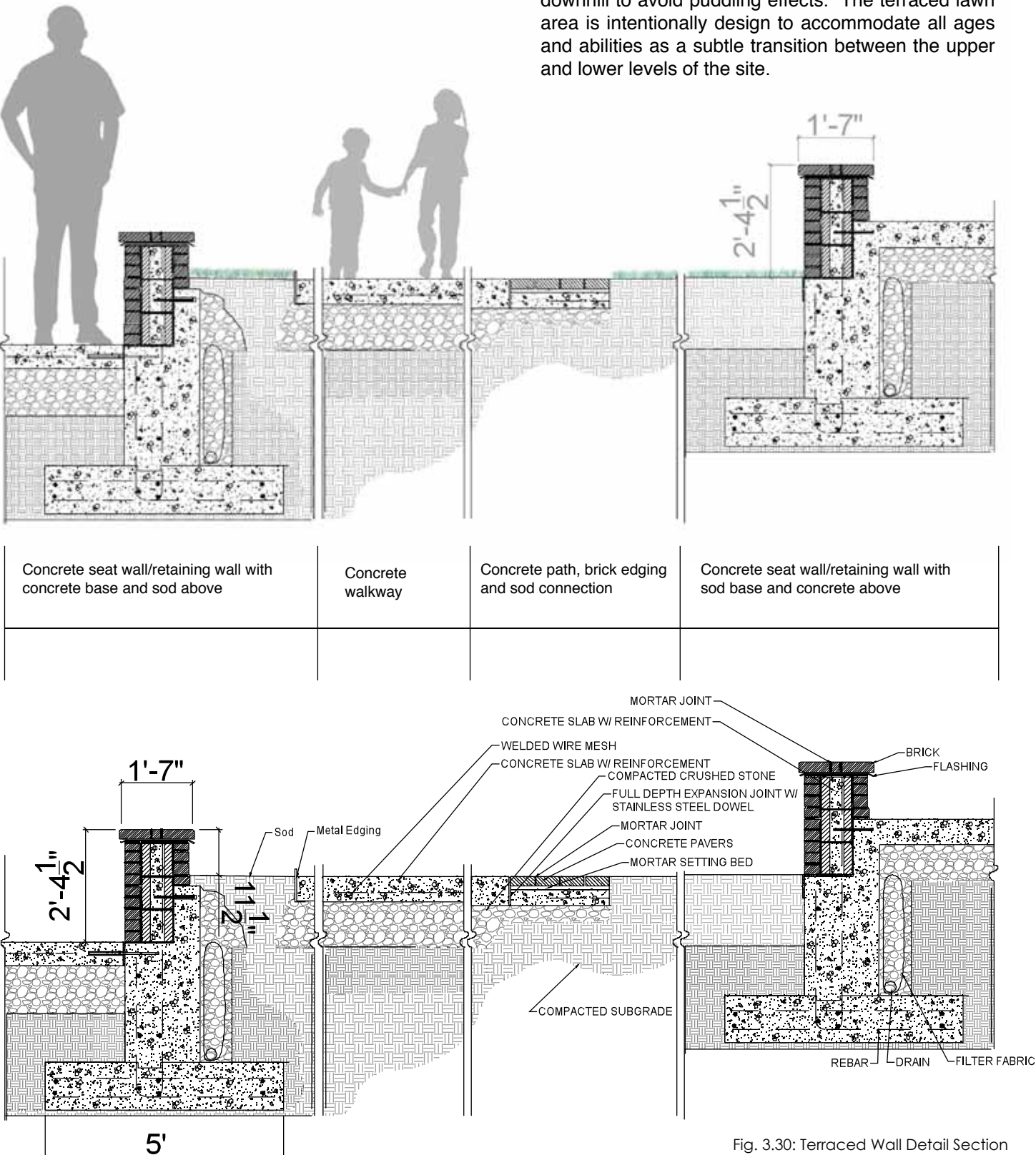


Fig. 3.30: Terraced Wall Detail Section



This project set out with an improbable goal: to create a model for sustainable urban development for the city of Indianapolis, Indiana. The sustainability metric used for this project was the Quadruple Bottom Line (set forth by Design Workshop). By taking on such a large scope and such a broad, interconnected sustainability metric, this project confronted problems ranging in scale from urban planning down to material selection. The streetcar corridor that is here proposed is still just the surface of a much larger, more intense investigation into sustainable urban development. The results of this project are staggering in their scope and comprehensiveness. It was evaluated, as part of the design process, that the streetcar would not only fit into the existing rights-of-way, but would enhance the streetscape by creating space to implement more sustainable infrastructure elements. As with many projects, the major constraint on this project is cost. According to the movie “Urbanized,” it is roughly twenty-five times more expensive to implement this sort of intensive, permanent infrastructure than to build the infrastructure for a similar bus route (vehicles included). Therefore, this project is treated as a visualization of a sustainable future rather than a fully articulated corridor intervention.

Within this proposal, new ideas are introduced that emphasize the importance of Indianapolis’ existing assets as an armature for growth and development. Indianapolis is growing and striving to be a world-class city. To achieve that goal, Indianapolis needs to re-imagine how the people of the city can connect and network. If people can move around the city without owning a car, a lot of financial capital is freed to be invested in more creative ways; the city can start thriving around locally based organizations that invest locally and grow locally. The streetcar proposal is more than a vehicle to help citizens commute; it is a vehicle for urban renewal. The streetcar corridor will grow into an intensely developed cultural, social, economic and environmental spine that breaches the boundaries between social classes and geographic locations.

This project grew around the idea of a full and comprehensive “journey” as a motif for design and development. Whether the journey is the entire 8.6 mile route or a two block walk, the experience was designed to be full and meet the needs of the users and the greater context. In the completion of the focus site, it became apparent that the concept of “site as a gateway” was an essential element of the overall journey. Every major infrastructure node would necessarily become a gateway into the immediate context. It was through this understanding that the project wound back on itself; the sustainable corridor is a series of gateways that create a comprehensive journey and bind the diverse contexts together.



## Appendix I: Methods

For this project, several books, journals, and websites were accessed and reviewed to glean applicable data. In addition to published materials, precedent studies were reviewed to find more in depth information. Conversations with professionals and city officials were also conducted to retrieve information that is not present on the surface.

To determine the various attributes and infrastructure necessities of streetcars, this research reviewed books such as *Street Smart: Streetcars and Cities in the Twenty-first Century* by Gloria Ohland and Shelley Poticha. The data from the review of literature was predominantly secondary data and was compiled in October and November of 2012. Much of the information available about contemporary streetcar systems, for the review of literature, was found in journals and websites.

To establish the necessity of an improved connectivity on the near east side of Indianapolis, the research used the Indy Connect and IndyGO websites. These sources provided historic context along with reasons for implementation of improved transit in Indianapolis. While the historic data on these sites is valuable, it is a secondary data source. Precedent studies were conducted on Portland, Oregon's (designed by Sasaki & Assoc.) and Denver, Colorado's 16<sup>th</sup> Street Pedestrian Mall (design by OLIN) to understand how streetcars can enhance the pedestrian experience. In addition to finding out requirements, potential benefits, and history about streetcars in Indianapolis, an interview with Ball State urban planning professor, Bruce Race, was conducted to find out suitability values for a streetcar corridor in Indianapolis. All of this information was compiled in November 2012. A follow-up conversation with Bruce Race will help to clarify techniques in connecting neighborhoods to transit systems.

To determine the effects of different transit-oriented development practices and where TOD(s)

might be integrated into the corridor, the proposal used the review of literature along with GIS maps provided by Brad Beaubien from CAP:IC. In "How to make transit-oriented development work: Number one: Put the transit back," an article from the journal *Planning*, a precedent is presented from a suburb outside of Washington D.C. This precedent found that a well-designed TOD would also decrease the parking requirements for the surrounding area (a two-fold effect on lowering environmental impact). Since TODs are a theory-based practice, none of the data gathered for this portion of the research is primary. The GIS maps, as primary data, offered information on demographics, vacancies, landmarks and some potential development areas. These maps are as contemporary as possible and were received in November 2012. To understand more of the intricacies of development and suitable locations for transit-oriented development, an interview is scheduled with Indianapolis Department of Metropolitan Development Senior Planner Tammara Tracy in December 2012.

To understand the impact of open spaces on development and community, the review of literature was employed along with an interview with a practitioner. Mark Lakeman, an architect from Portland, OR and owner/founder of Communitecture, was contacted to help establish the importance of public space for community growth. This source of primary data informed the research about the possibilities and necessity of community-based design in creating stronger urban networks within a larger urban context. The interview took place in October 2012. In the review of literature, *The Smart Growth Manual*, a book by Andres Duany, Jeff Speck, and Mike Lydon, examined the capabilities of open space to act as a catalyst for economic and social development. It discussed how communal open space could create stronger connections throughout socioeconomic demographics.

## Appendix II: Considerations and Concerns

Due to the nature of this project as a local-regional development plan focused around a central transit “spine,” multiple aspects of development and design have large impacts on the overall success of the outcome. As previously discussed, environmental, social, economic and aesthetic aspects are essential in both planning and design for this project. While this project is built *around* a transit corridor, the landscape design focuses on the supporting and ancillary open spaces embedded in the adjacent communities. Integral to every part of this design project is, therefore, the pedestrian.

The pedestrian is the main, intended user. This project is about more than a transit corridor; it is about building experiences. This project hinges on the pedestrian experience in all aspects.

Environmentally, the pedestrian signifies less use of fossil fuels. An important aspect of the design, therefore, will be access to amenities close enough to where someone lives to make it efficient to walk there. The streetcar, as a public transit option, can augment the pedestrian’s “walk radius” to be larger and therefore bring more amenities within a reasonable walk distance. Increased walking and transit ridership will help to improve social interactions.

Recognizing neighbors and local business owners creates social capital and promotes community. Open spaces will cater to how the pedestrian can interact with other people. Streetscapes and the space between buildings will necessarily be designed to a more intimate scale to make the pedestrian more comfortable. If there are more people in a space, more people will come because people like being around people. Socially, the pedestrian is the greatest vehicle for community growth.

Economically, the pedestrian is the main currency. More pedestrians mean more visitors, which means more business. Social capital, built through increased sense of community, brings loyalty to local businesses. Each experience that a pedestrian has impacts their perception of space, so attractive streetscapes are necessary to increase usership and therefore business.

The art and design of a space is important in making

experiences more interesting and engaging. The pedestrian may come to a place out of convenience but the reason a pedestrian will return is because a space is engaging and enjoyable.

So, while there are many aspects of the design, the pedestrian is the central concern. The surrounding neighborhoods must be addressed because this is where many of the people will be coming from. The streetcar system is important due to the infrastructure requirements. Special importance will be paid to understanding how a pedestrian’s experience can be improved through convenient mass transit. While it may not be physically designed, zoning and development standards are important to the success of the project as well. Denser development near the transit corridor will be encouraged to improve the economic and aesthetic viability of the corridor. In addition, parking and automobile infrastructure will be tailored to a pedestrian-focused circulation system. Environmental systems, including stormwater management and clean energy, will be integrated into the design so that the project has long-term resilience. Greenways and a corridor-long park network will be integrated into the design to promote health and wellness and an appreciation for the environment.

This project is highly theoretical because of the existing conditions. IndyGO and the Indy Connect transit proposal are developed standards for future transit development in Indianapolis. With that in mind, the connections and development standards this project proposes are not reliant on the streetcar implicitly. The premise of this proposal though is that a streetcar would provide the greatest benefit for the corridor of all the available transit options. Zoning practices in Indianapolis are also in flux since the Indianapolis Department of Metropolitan Development is poised to introduce the “Indy Rezone” zoning proposal – a reexamination of the current zoning practices throughout the city. The Indy Rezone proposal does include a new consideration of mixed-use development that works in the favor of transit-oriented development and higher-density development.

## Appendix III: Interview Questions

**Mark Lakeman: Founder, Communitecture (Portland, OR)**

Question #1: How does a designer create a sense of community?

*Common spaces are defined by edges – in America, these edges are not utilized. Design should be a catalyst for community. A designer's goal is to create villages not community – villages create community.*

Question #2: What are America's communities lacking that makes social capital so hard to build? Why?

*Communities are lacking gathering places. Environments should be reflections of values and they are not now.*

Question #3: What role does the designer play and what role does the community play in creating and planning community gathering spaces?

*The community must be motivated to make something happen. The designer just needs to do something that meets a community need and make it outrageously beautiful. Projects are all integrated into a larger system (not 41 separate projects but 41 parts to the overall project of Portland).*

Question #4: What is the greatest symptom of poor community planning and what is the true cause?

*Since communities do not grow via residents' needs, streets are only for cars. No one is designing the landscape they are living in – people need to make places that reflect who they are.*

Question #5: What is the ideal community spatial structure?

*The village. In village-based community, violence and health statistics are drastically better.*

Question #6: What aspects of design and design of communities are really sustainable and what needs to change?

*The current practice of having to get everything approved before anything gets built slows down the process so much that you can never really find out what will work – it precludes spontaneity. Do it and see what happens: everything is an experiment. You get better results if people can actually experience what you are designing for them. They can change it and make it more suitable to them.*

**Tammara Tracy: Senior Planner, Indianapolis Department of Metropolitan Development**

Question #1: Do you think a streetcar is a viable transit option in Indianapolis? Why? Why not?

*I think the proposal has a lot going for it. Bringing back a streetcar to connect Broad Ripple Village to Mass Ave makes a lot of sense. The only problem is that the infrastructure is much more expensive for a streetcar than a bus.*

Question #2: One of the main benefits to a streetcar system is the permanence of the infrastructure. How would that impact localized businesses?

*There is a lot being done to make bus infrastructure have a similar impact that streetcar rails do. The insurance that there will be a transit route in a given space (as it would be with a streetcar) is a major stabilizer for local business. Unfortunately, the zoning regulations that used to exist where there would be a commercial zone every three or four blocks along a major road just isn't viable anymore. Because of the internet, the average household income is spread over a larger economy so there isn't the same concentration of local dollars going to neighborhood stores that used to sustain those commercial zones. There needs to be more density to sustain that same planning pattern.*

Question #3: How can planners, landscape architects, and architects affect quadruple bottom line sustainability?

*Well, we really can only make suggestions. The trick is that planners have to make places appropriate and adaptable while being in line with what the public wants. Landscape architects and architects really design within the realm of the art and environmental aspects of sustainability. You can't design strong social structures – you just have to make sure you don't get in the way and provide appropriate amenities to facilitate social growth. The same goes for the economy. And really, what it comes down to is that you need people to make any of it work. So you can design something to be environmentally sustainable and beautiful so you can attract people, but then you have to let the people decide how everything works. The people will build the economic aspects on top of the social structure.*

Question #4: What aspects of Indy Rezone might augment the feasibility of this proposal?

*Indy Rezone emphasizes the importance of mixed-use development. Part of the proposal is integrating mixed-use development into the city to incite urban infill.*

Question #8: Would you ride the proposed streetcar?

*Yes! It would be a great way to grab dinner and a show and not have to worry about parking.*



## Appendix IV: Fig. Table

**Bruce Race: Associate Professor of Professional Practice, Ball State University, College of Architecture and Planning: Indianapolis Center**

Question #1: Is the proposed corridor a feasible and reasonable area to investigate for transit corridor development?

*MUD students often use this corridor (or a variation of it) for projects.*

Question #2: Are there any other similar projects going on in the Masters of Urban Design Program (MUD)?

*Corri Bretch (a MUD student) is doing a similar project concerning the downtown portion of the corridor with emphasis on where to locate a transit hub.*

Question #3: If a multi-modal transit hub is proposed for the old Market Square Arena site, would it be a viable and useful development or would another site be better fitted to that programming?

*Alabama Street from Ohio to Washington is a site that needs to be redeveloped. IndyGO is currently planning to but in a bus hub one block east on Washington and Delaware. This general area is a good place to locate a transit hub for downtown.*

Question #4: What areas along the proposed corridor do you identify as having high potential to support a TOD? (A second interview is scheduled for late December to answer more in depth questions)

Question #5: Aside from the proposed corridor, what other routes do you see as having high potential for supporting a similar transit line?

*Washington Street out to Irvington is a route that has high potential. The MUD program is currently working on a streetcar proposal for this corridor.*

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# Appendix V: Supplementary Images

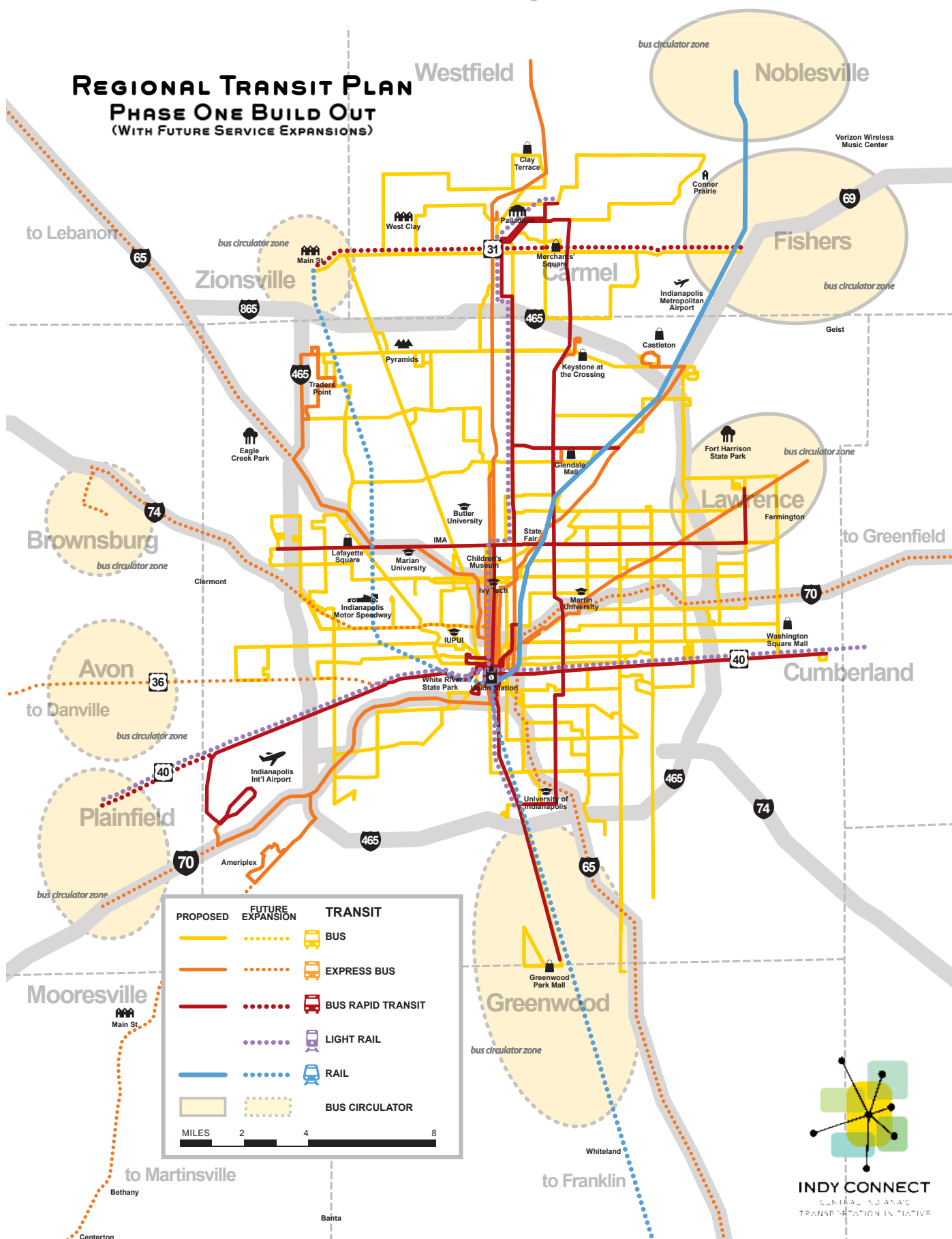


Fig. 4.1: Indy Connect Proposal





**STREETCAR\_1950**



**P0130\_36570P8**

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**P0130\_P\_BOX63\_FOLDER9\_245149**

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Above: (Top) Broad Ripple Streetcar crossing the Monon Trail in Broad Ripple Village; (Bottom Left) Streetcar at Illinois and Washington Streets; (Bottom Right) College Avenue route between Indianapolis and Broad Ripple Village;

(Left-Hand Page) Indy Connect Proposal

Source: [indyconnect.org](http://indyconnect.org)

Images from Indiana Historical Society



## Appendix VI: Visual Inspirations



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